



# Environmental Assessment

## *Upgrade and Rehabilitate Administrative Complex*

---

### Proposed Action:

The National Park Service proposes to upgrade and rehabilitate the headquarters' complex at Joshua Tree National Park in Twentynine Palms, California.

The project would entail replacing 1960s-era trailers and temporary structures currently being used for office space with structures constructed of sustainable materials and energy efficient technologies. The new buildings would also comply with Americans with Disabilities Act of 1990 requirements.

For further information, please leave your contact information at 760-367-5502.

### Note to Reviewers and Respondents:

If you wish to comment on this Environmental Assessment, you may mail comments by July 25, 2003, to Superintendent, Joshua Tree National Park, 74485 National Park Drive, Twentynine Palms, CA 92277, Attn: Headquarters Rehab.

Comments submitted by electronic mail may be addressed to [jotr\\_publiccomments@nps.gov](mailto:jotr_publiccomments@nps.gov) and will be accepted through July 25, 2003. Please reference "Headquarters Rehab" in the subject line.



---

# Contents

|          |  |    |
|----------|--|----|
| <b>1</b> | <b>Introduction</b>  |    |
|          | 1.1 Purpose and Need .....                                       | 4  |
|          | 1.2 Background and Previous Planning .....                       | 5  |
|          | 1.3 Scoping .....  | 5  |
|          | 1.4 Impact Topics .....  | 5  |
| <b>2</b> | <b>Proposed Action and Alternatives</b>                          |    |
|          | 2.1 Introduction .....   | 10 |
|          | 2.2 The Alternatives .....                                       | 10 |
|          | 2.3 Alternatives Eliminated from Detailed Study .....            | 13 |
|          | 2.4 Summary of Alternatives and Environmental Consequences ..... | 14 |
|          | 2.5 Environmentally Preferred Alternative .....                  | 16 |
| <b>3</b> | <b>Affected Environment</b>                                      |    |
|          | 3.1 Location and Background .....                                | 17 |
|          | 3.2 Biotic Communities .....                                     | 17 |
|          | 3.3 Species of Concern .....                                     | 18 |
|          | 3.4 Cultural Resources .....                                     | 19 |
|          | 3.5 Museum Collections .....                                     | 26 |
|          | 3.6 Visitor Experience .....                                     | 26 |
|          | 3.7 Park Operations .....  | 26 |
| <b>4</b> | <b>Environmental Consequences</b>                                |    |
|          | 4.1 Introduction .....   | 27 |
|          | 4.2 Definitions .....  | 27 |
|          | 4.3 Environmental Consequences of No Action .....                | 31 |
|          | 4.4 Environmental Consequences of the Proposed Action .....      | 33 |
| <b>5</b> | <b>Bibliography</b>  |    |
|          | 5.1 Bibliography .....   | 38 |
| <b>6</b> | <b>Preparers and Consultants</b>                                 |    |
|          | 6.1 Preparers .....  | 44 |
|          | 6.2 Consultants .....  | 44 |
| <b>7</b> | <b>Appendices</b>  |    |
|          | 7.1 Discovery Plan .....   | 45 |
|          | 7.2 USFWS Correspondence .....                                   | 47 |
| <b>8</b> | <b>Figures</b>   |    |
|          | 8.1 Map 1 .....  | 49 |

---

# 1 Introduction

## 1.1 Purpose and Need

The purpose of the project, as proposed by the National Park Service (NPS), is to upgrade and rehabilitate the headquarters' complex at Joshua Tree National Park in Twentynine Palms, California.

The proposed project would replace deteriorated Visitor Protection office trailers with accessible, sustainable structures. Present ranger operations are conducted out of two 1960s-era converted trailer residences, a salvaged real estate office, and a portable shed. All units fail to comply with accessibility standards. The units are deteriorated to the point that it is impossible to maintain comfortable temperature ranges in hot or cold extremes. Structures are not weather-tight, resulting in wasted energy output in all seasons.

Electrical power for the Visitor Protection offices is connected with power sources providing electrical power to the entire headquarters' area. This electrical power source is currently tapped, creating frequent brown-outs during times of peak electrical demand. An additional 400-amp service drop would be required to insure uninterrupted power to facilities.

The project would also include the construction of a Facility Management office complex. The current 800-square-foot space allotted to Facility Management is not adequate to accommodate three foremen, a landscape architect, a program assistant, the facility manager, and the office automation clerk. The current Facility Management office also lacks adequate electrical and data wiring to meet the operational demands of today's internet-based workplace. Special-needs project managers from the Western Archeological Conservation Center (WACC), Denver Service Center, and Federal Highways Administration are unable to conduct business within the existing work environment when they are supervising projects in the park.

A 26-year-old, triple-wide trailer currently serves as a substandard office space for the park's Resource Management division. A permanent, sustainable replacement structure would include a specimen work laboratory, enabling personnel to execute necessary resource tasks associated with desert ecosystems protection at Joshua Tree National Park.

Joshua Tree National Park's Museum Collections storage space (1,548 square feet) is nearing full capacity with an expanding artifact and archival collection of 180,000 accessioned items and 150,000 unaccessioned and uncataloged items. More than 4,000 archival and archeological items from Joshua Tree National Park are located at WACC, and a potentially significant number of the park's biological, paleontological, archeological, and geological collections are housed in local repositories, such as those of the University of California, Riverside, and the University of Nevada at Las Vegas. These external collections could be returned to the park if enough space existed to properly curate them. In addition to active cultural and natural resources programs, the park has recently initiated a paleontology program, which will generate added storage needs. However, there is currently inadequate space for museum supplies, inadequate preparatory work space, and inadequate space for the proper storage of unaccessioned or uncataloged items. The project to upgrade the administrative facilities at Joshua Tree National Park would meet the need for an addition to archival storage space by constructing an annex to the current Museum Collection's building.

The project would create covered parking areas and a separate vehicle access road for employees, alleviating peak-season parking and traffic stresses at the adjacent Oasis Visitor Center parking lot, currently utilized by both visitors and employees. Photovoltaic cells would be installed on carport roofs, offsetting the operational costs of new buildings by generating electric power on site.

Currently, there is no meeting or conference room in which divisions can plan interdisciplinary project work, and the proposal would attempt to meet this need.

## **1.2 Background and Previous Planning**

This Environmental Assessment (EA) is tiered from Joshua Tree National Park's 1996 *General Management Plan* Environmental Impact Statement (EIS), which identified the need for upgrading and rehabilitating the headquarters' complex. The *General Management Plan* EIS specifically outlined a plan for a new headquarters' complex that would house Visitor Protection, Facilities Management, and Resource Management offices, in addition to providing increased artifact storage and research space (p. 80). The *General Management Plan* EIS also planned for a "separate, secure parking area" for NPS employees adjacent to the new headquarters' complex (p. 80). The emphasis of any comprehensive Park Headquarters' construction plan, as directed by the 1996 *General Management Plan* EIS, is to create safe, accessible, and sustainable structures while minimizing impacts to park resources.

On December 30, 2001, Joshua Tree National Park, working with the NPS Pacific West Region Office of Facility Management, completed its Headquarters Comprehensive Plan. The plan assessed, surveyed, and documented all existing physical facilities and utilities in the Twentynine Palms Headquarters Area. Detailed drawings (to scale) of all visitor service and administrative service facilities were produced, along with overlays of proposed future project additions. A headquarters' traffic study was authorized.

On June 3, 2002, Wilbur Smith Associates completed its draft report of the *Headquarters Traffic Study* for Joshua Tree National Park. The design of a new administrative complex was tailored to immediate and future demographic traffic patterns.

## **1.3 Scoping**

Scoping is the effort to involve agencies and the general public in determining the issues to be addressed in the environmental document for the proposed improvements. Among other tasks, information from scoping enables the NPS to determine important issues and eliminate issues with no relevance; allocate assignments among its interdisciplinary team members and/or other participating agencies; identify related projects and associated documents; identify any necessary permits, surveys, or consultations; and create a schedule which allows adequate time to prepare and distribute the environmental document for public review and comment before a final decision is made. Scoping provides an opportunity for early input by any interested agency.

Among other groups, the local chambers of commerce, various conservation organizations, the U.S. Fish and Wildlife Service (FWS), the State Historical Preservation Office (SHPO), and all affiliated Indian Tribes were contacted by mail. There were 96 recipients of the scoping letter. A press release was issued on November 25, 2002 to let the public know about the upgrade to the administrative complex, and to invite interested groups or individuals to participate.

Scoping for this project resulted in one electronic mail response, no phone responses, and no mailed responses. The electronic mail response was from a representative of the City of Twentynine Palms. The responder expressed support for a comprehensive upgrade of the headquarters complex. Scoping did not particularly focus the park-generated impact topics nor produce any additional impact topics. The impact topics are described in detail in the section following.

## **1.4 Impact Topics**

Impact topics are defined as those resources or values of concern that could be affected by the range of alternatives. Specific impact topics are developed to insure that alternatives are compared on the basis of the most relevant topics. Relevant issues associated with the proposed action were identified by NPS specialists, utilizing both

internal sources and external input provided during scoping. The following impact topics were identified on the basis of federal laws, regulations, orders, and *NPS Management Policies 2001* (2000). A brief rationale for the selection of each impact topic is given below, followed by the rationale for dismissing specific topics from further consideration.

#### **1.4.1 Included Impact Topic: Biotic Communities**

The National Environmental Policy Act (NEPA) of 1969 calls for an examination of the impacts and potential impacts to all components of affected ecosystems, including soils, vegetation, and wildlife. The NPS is mandated by the Organic Act of 1916 to preserve its natural resources unimpaired for future generations. *NPS Management Policies 2001*, and NPS Director's Orders (DO)-2 *Park Planning*, DO-12 *Conservation Planning, Environmental Impact Analysis, and Decision-Making*, DO-77 *Natural Resources Management*, among other policy-shaping documents, provide specific guidance for the protection of the abundance and diversity of Joshua Tree National Park's naturally occurring communities. Since the proposed action would involve some manipulation of natural resources, biotic communities will be addressed as an impact topic in this EA.

#### **1.4.2 Included Impact Topic: Species of Special Concern**

The Endangered Species Act of 1973 mandates an examination of impacts on all species on the federal list of threatened or endangered species. The desert tortoise, *Gopherus agassizii*, is listed as a threatened species by the FWS (50 CFR 17.11 & 17.12). Joshua Tree National Park is part of the Desert Wildlife Management Area (DWMA) under the 1994 Recovery Plan for the desert tortoise (Section II.B and E). As a DWMA, the NPS implements recovery actions to provide for the long-term persistence of viable desert tortoise populations (FWS 1994). This EA will analyze potential impacts to any desert tortoises or tortoise habitat.

#### **1.4.3 Included Impact Topic: Cultural Resources**

The NPS is mandated to preserve and protect its historic properties through the Organic Act of 1916, and such specific legislation as the Antiquities Act of 1906, the National Historic Preservation Act (NHPA) of 1966, NEPA, and the Archeological Resources Protection Act (ARPA) of 1979. In addition, the management of cultural resources would be guided by the Advisory Council on Historic Preservation's implementing regulations regarding the *Protection of Historic Properties* (36 CFR Part 800), the Secretary of the Interior's *Standards for the Treatment of Historic Properties* (1995), Chapter V of the *NPS Management Policies 2001*, and NPS DO-2, DO-12, and DO-28 *Cultural Resource Management*.

This EA is intended to address NHPA Section 106, as well as NEPA, concerns. The area of potential effect (APE) was identified in concert with Jennifer Darcangelo at the State Historic Preservation Office (SHPO). It includes the area of immediate building removal and construction, as well as parking areas, utility lines, revegetation areas, and the project staging area, northwest of the current helipad (See Map 1).

The term "historic properties" refers to all cultural resources, including archeological sites, historic structures or buildings, cultural landscapes, and ethnographic resources. Because National Register eligible archeological resources are in close proximity to the proposed construction project, archeological resources will be addressed in this document. An intensive archeological survey and limited testing of NPS land in the eastern, developed portion of the Oasis parcel, including the land on which the proposed action would take place, was completed in 2003 (Schneider 2003).

"Ethnographic resources" are defined by the NPS as any "site, structure, object, landscape, or natural resource feature assigned traditional, legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it" (DO-28: 181). Letters notifying American Indian tribes of the EA proposal to consider an upgrade of park headquarters were sent to the Morongo Band of Mission Indians, the Colorado River Indian Tribes, the Agua Caliente Tribe, the 29 Palms Band

of Mission Indians, the Native American Heritage Commission-Morongro Reservation, the Cabazon Band of Mission Indians, the Morongo Band of Cahuilla Mission Indians, the Augustine Band of Mission Indians, the Torres-Martinez Band of Mission Indians, the Chemehuevi Indian Tribe, the Cabazon Band of Cahuilla Mission Indians, and the Fort Mojave Indian Tribe. To date, no tribes have expressed concerns about the effects of construction on the integrity of the adjacent Oasis of Mara.

The evaluation of impacts to cultural resources will be carefully examined by this EA, as mandated by NEPA and NHPA, with attention to the provisions of the 1990 Native American Graves Protection and Repatriation Act (NAGPRA), for sites where human remains or burials may be present. The NPS would consult with affiliated American Indian tribes in a way that respects the beliefs, traditions, and other cultural values of the American Indian tribes who are associated with Joshua Tree National Park.

#### **1.4.4 Included Impact Topic: Museum Collections**

NPS *Management Policies 2001* and DO-28 require the consideration of impacts on museum collections (historic artifacts, natural specimens, and archival and manuscript material). Because the proposed action would include a substantial amendment to the physical plan of Joshua Tree National Park's Museum Collections, the potential impacts will be analyzed by this EA.

#### **1.4.5 Included Impact Topic: Visitor Use and Experience**

Providing for visitor enjoyment is one of the fundamental missions of the NPS, according to the Organic Act of 1916 and NPS *Management Policies 2001*. As proposed construction would take place near the self-guiding trail around the Oasis of Mara and the adjacent Oasis Visitor Center, the potential impacts to visitor use will be analyzed by this EA. Particular attention will be paid to issues of noise generation and long-term traffic flow.

#### **1.4.6 Included Impact Topic: Park Operations**

The NPS *Management Policies 2001* outlines each park service unit's responsibility to "provide a safe, sanitary, environmentally protective, and esthetically pleasing environment for park visitors and employees...and... preserve or maintain facilities in their optimum sustainable condition to the greatest extent possible" (p. 103). The proposed action would directly affect the work environments of NPS personnel and the long-term sustainability of Joshua Tree National Park's facilities. Therefore, park operations will be addressed as an impact topic in this EA.

#### **1.4.7 Dismissed Impact Topic: Air Quality**

The Clean Air Act of 1970 (as amended 1990) requires federal land managers to protect park air quality. *Management Policies 2001* calls for air resource management to be integrated into NPS operations and planning, and for all air pollution sources within parks to comply with federal, state, and local air quality regulations. The temporary generation of small amounts of fugitive dust and diesel exhaust from the proposed action would have a minimal impact upon the air quality of the 794,000-acre national park and upon the surrounding community of Twentynine Palms; therefore, this topic was dismissed from further analysis.

#### **1.4.8 Dismissed Impact Topic: Socioeconomic Values**

The local economy and most businesses within the community adjacent to the Twentynine Palms Administrative Area are based on professional services, construction, tourism, light industry, and a local military installation. Should the preferred alternative be implemented, the local and regional economy would realize short-term economic benefits from construction-related expenditures. Possible disturbance and inconvenience to both park visitors and the surrounding community from construction activities would be temporary and would only occur during the construction period. Therefore, "socioeconomic values" was dismissed as an impact topic in this document.

#### **1.4.9 Dismissed Impact Topic: Wilderness**

The NPS wilderness management policies are based on statutory provisions of the Organic Act of 1916, the Wilderness Act of 1964, and legislation establishing individual units of the national park system. The *NPS Management Policies 2001* requires the administration of NPS-managed wilderness areas for the use and enjoyment of the American people in such a manner that will leave them unimpaired for future generations. As all of the actions proposed in the alternatives would take place outside designated wilderness, impacts to wilderness are not discussed further.

#### **1.4.10 Dismissed Impact Topic: Environmental Justice**

Executive Order 12898, “General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” requires all federal agencies to incorporate environmental justice into their missions by addressing adverse human health or environmental effects of their programs on minorities and low-income populations and communities. None of the alternatives in this EA would have disproportionate health or environmental consequences for minorities or low-income populations or communities as defined in the Environmental Protection Agency’s Draft Environmental Justice Guidance (July 1996); therefore, this topic will not be discussed further.

#### **1.4.11 Dismissed Impact Topic: Water Resources**

The *NPS Management Policies 2001* and DO-77 provides direction for the protection of water resources. The Oasis of Mara is an ecologically important water resource in the Twentynine Palms Headquarters 58-acre parcel; however, the area of proposed construction would not encroach on any areas near the oasis. All proposed construction would be planned to replace existing structures in their current positions, or in positions further east from the Oasis. The NPS, as part of its *Headquarters Landscape and Oasis of Mara Action Plan for Joshua Tree National Park* (1996), continues to monitor groundwater levels in the Oasis, an action which includes the drilling of new test wells when necessary and the maintenance of an existing water support system for the Oasis. Because of the position of the proposed construction, and because of existing infrastructure for the preservation of the Oasis of Mara, no water resource could be affected by the proposal or its alternatives; therefore, water resources was dismissed as an impact topic in this document.

#### **1.4.12 Dismissed Impact Topic: Floodplains and Wetlands**

Executive Orders 11988 (*Floodplain Management*) and 11990 (*Protection of Wetlands*) require an examination of impacts to floodplains and wetlands— of potential risks involved in placing facilities within floodplains, and of potential risks to wetlands.

The Oasis of Mara evolved under a regime of alluvial fan sheet and rill flooding. The adjacent area of proposed construction is located within this floodplain. In 1950, the NPS constructed a low block wall around the oasis, to define the monument boundary. In 1962, a flood breached the wall along the south and north sides. Damage to the headquarters’ facilities resulted in a decision to construct an earthen berm within the wall to redirect any future flooding. The berm continues to divert and channel water flow within the oasis and headquarters’ area.

Externally, the broad sheet flooding which probably existed prior to the development of the community of Twentynine Palms has been significantly altered. Baseline Road intersects the natural drainage pattern from areas of higher elevation to the Oasis of Mara. Like most paved roads, Baseline was designed to channel the broad flows to singular road crossings. Additionally, ten acres along Baseline Road have been developed into a public school. To protect the facilities, channelization has been used to shunt floodwaters around this parcel. Three paved roads and six dirt roads bisect the natural water flow to the south of Baseline Road, in the direction of the alluvial fan that sources potential floods. The combination of permanent developments above the NPS boundary with the channeling developments within NPS boundaries preclude the likelihood of water inundating headquarters’ facilities in the future.



As discussed in section 1.4.12, the Oasis of Mara is a desert wetland ecosystem within the Twentynine Palms Headquarters 58-acre parcel. The NPS, as per its *Headquarters Landscape and Oasis of Mara Action Plan for Joshua Tree National Park* (1996), continues to monitor the Oasis ecosystem, an action which includes the drilling of new test wells when necessary, and the maintenance of an existing water support system for the Oasis. Because of the existing infrastructure for the preservation of the Oasis of Mara, and because the proposed construction would be focused in areas where existing NPS structures do not impact the Oasis of Mara, the existing desert wetlands would not be affected by the proposed construction. Because there would be no significant impact of the EA alternatives to wetlands, and because the diversion of potentially damaging floodwaters is already managed by the NPS and by the surrounding community of Twentynine Palms, “Floodplains and Wetlands” was dismissed as an impact topic.

#### **1.4.13 Dismissed Impact Topic: Indian Trust Resources**

Secretarial Order 3175 requires that any anticipated impacts to Indian trust resources from a proposed project or action by Department of Interior agencies be explicitly addressed in environmental documents. The federal Indian trust responsibility is a legally enforceable fiduciary obligation on the part of the United States to protect tribal lands, assets, resources, and treaty rights, and it represents a duty to carry out the mandates of federal law with respect to American Indian and Alaska Native tribes. There are no Indian trust resources in Joshua Tree National Park. The lands comprising the park are not held in trust by the Secretary of the Interior for the benefit of Indians due to their status as Indians. Therefore, “Indian Trust Resources” was dismissed as an impact topic.

Note: To view a map of the Area of Potential Effect, refer to Figure 8.1.

---

## 2 Alternative Actions

### 2.1 Introduction

The alternatives section for this EA describes two alternatives for the management of the Twentynine Palms Headquarters Area. Mitigation is included in section 2.2.3 and its subheadings. Alternatives eliminated from further consideration, and the reasons for elimination, are discussed in section 2.3. A summary table comparing the alternatives (Table 1) and the environmental consequences of the alternatives (Table 2) is presented in 2.4. Concluding Chapter 2 of this EA is a determination of the Environmentally Preferred Alternative.

### 2.2 The Alternatives

#### 2.2.1 No Action Alternative

This alternative proposes no changes to the existing structures or facilities in the Headquarters Area at Joshua Tree National Park. No additional electrical power would be supplied to cope with increasingly frequent brown-outs. Temporary trailers would continue to serve as offices for Visitor Protection, Resource Management, and Facilities Management. No additional Museum Collections storage space would be built. The employee parking situation would remain the same, with a continuing impact to visitor center parking areas and traffic flow. An employee conference room and lunch area would not be built.

#### 2.2.2 Preferred Alternative – Upgrade and Rehabilitate Administrative Complex

This alternative proposes a comprehensive plan for the rehabilitation and upgrade of the Headquarters Area at Joshua Tree National Park, as directed by the park's *General Management Plan* of 1996. The project would proceed in the order described below.

Four portable structures that are presently utilized by Visitor Protection personnel would be removed and disposed as scrap: a 40- by 12-foot trailer, a 60- by 12-foot trailer, a 36- by 20-foot modular building, and a 10- by six-foot shed. Overhead electrical lines would be replaced with an additional 400 amp underground feed. A trench approximately 200 feet long, four feet deep, and 18 inches wide would be dug, then filled, to accomplish the electrical service drop by Southern California Edison.

A fully accessible, 2000-square-foot office building would be constructed overlapping the footprint of two trailer pads to serve as the new, sustainable office for Visitor Protection personnel. A fully accessible, 2100-square-foot office building would be constructed immediately south of the new Visitor Protection office, to serve as a sustainable office for Facility Management personnel. The 60- by 36-foot trailer that is currently utilized by Resource Management personnel would be removed and disposed as scrap. A fully accessible, 2400-square-foot office building would be constructed overlapping the footprint of the trailer pad, complete with private offices, general work areas, a conference room, and a specimen work laboratory. Water, sewer, natural gas, electrical, and data lines would be introduced to all office buildings. The building plans would also include attached and unattached shade structures that would increase energy efficiency during the extreme temperature months of summer.

The paved road and parking lot currently used for employee vehicle access and parking would be replaced with a landscaped courtyard. As utility lines currently run under the road, the creation of a courtyard in this space would maintain service access to all utilities. The road's asphalt coating would be replaced with compacted concrete walkways, interspersed with planters of native vegetation.

Carports roofed with photovoltaic cells would be installed around the perimeter of the

new office complex, providing shade for employee vehicles and 70 to 90 percent of the energy required to meet the electrical demands of the new facilities. Asphalt surfacing would be applied under shade structures to create 36 employee parking spaces. The CNG pumps currently in place to service park vehicles would be shifted approximately 20 meters east to accommodate the carport structures. An asphalt road would be laid from Utah Trail on the east to the covered employee parking areas. An electronic gate would be installed just inside the Utah Trail entrance to assure security for employee vehicles. A six-foot-tall wall would be constructed between the new facilities and Utah Trail. This wall would be faced with adobe-colored stucco, to provide visitors with a view more appropriate to the adjacent view-shed of the Oasis of Mara and the Oasis Visitor Center. An asphalt road running from the employee parking area to the north would be constructed to connect with the visitor center parking lot.

An 1800-square-foot building would be constructed to the west of the Resource Management structure, as an addition to Joshua Tree National Park's Museum Collections storage space. The new building would include a room for the proper storage of unaccessioned and uncataloged items, a storage room for museum supplies, and a combined space for the preparation of artifacts and a researchers' reading room. The footprint of the proposed Museum Collections' addition partially overlaps a wing of the Center for Arid Lands Restoration's nursery. This wing of the nursery would either be contracted or relocated to a previously impacted area to the south. No new impact to vegetated areas would occur from this relocation.

The 24- by 40-foot trailer that currently functions as the office for Facility Management would be removed and disposed as scrap, and a 2000-square-foot employee conference room would be constructed. Water, sewer, natural gas, electrical, and data lines would be installed in the new employee conference room. The building would be provided with attached and unattached shade structures that would increase energy efficiency during the extreme temperature months of summer.

Project work would be a combination of contract and day labor. The estimated construction time would be nine months per building. The total time required for the completion of the project would be dependent upon park budget and funding requirements, not to exceed twelve years total. The staging area for the project would be the area currently used as an employee overflow parking area, immediately north and northwest of the existing helipad (See Map 1). Grading for the project would be minimal, and surfaces and surfaces to be graded would be watered to soften soil and minimize dust. Asphalt for the project would be produced at an asphalt batch plant outside city limits.

Subsequent to the completion of construction, the NPS would undertake a revegetation project to offset potential habitat loss. For details on revegetation associated with the proposed action, see the following section, 2.2.3.1, Biotic Communities mitigation.

## **2.2.3 Mitigation of the Effects of the Proposed Action**

### *2.2.3.1 Biotic Communities*

At the conclusion of the project, the dirt maintenance road leading from the staging area toward the Oasis, looping toward the nursery, and branching to the current maintenance office trailer, and the pad of the current office trailer would be revegetated to mitigate the impacts to vegetated areas within the construction zone (See Map 1). Revegetation would utilize only native plants or seeds originating from Joshua Tree National Park, and all efforts would strive to establish the natural spacing, abundance, and diversity of native plant species. Holes would be dug utilizing an auger and would be no deeper than fifteen inches, and no greater than six inches in diameter.

### *2.2.3.2 Species of Special Concern*

The proposed project would take place in Mojave desert tortoise (*Gopherus agassizii*) habitat. Construction would affect previously disturbed, sparsely used habitat. The desert

tortoise mitigation would proceed as follows.

Temporary tortoise-proof fencing would be established around the staging area. The fence would consist of a non-breachable barrier and support structures. Galvanized hardware cloth of 0.50-centimeter (0.13-in) diameter, and at least 46 centimeters in height, would be firmly secured along the base of the fence in direct contact with the ground. Fence placement and construction would be supervised and approved by the authorized biologist. All tortoise fencing would be dismantled and transported from the site following project completion.

A desert tortoise education program would be presented to all construction personnel, prior to any construction activities. Following the onset of construction activities, any new employees would formally complete the tortoise program prior to working on site. At a minimum, the tortoise education program would contain the following topics: (1) desert tortoise distribution/occurrence; (2) general behavior and ecology; (3) species sensitivity to human activities; (4) legal protection; (5) penalties for violation of state or federal laws; (6) reporting requirements; and (7) project protective mitigation measures.

Employees would inspect beneath parked vehicles and equipment prior to traveling. If a desert tortoise were encountered, only an USFWS-approved biologist would be allowed to handle or relocate the tortoise. All tortoises would be handled in accordance with procedures described in *Guidelines for Handling Tortoises During Construction Projects* (DTC 1994, revised 1996). The tortoises would be translocated the minimum distance practicable, within appropriate habitat, to ensure the animal's safety and survival. The NPS biologist would maintain a complete record of all desert tortoises encountered. The record should include: location, date and time, life history, general condition, and identification numbers. Within 90 days following the discovery of any tortoise, a report would be submitted to USFWS. Upon completion, if no tortoises were discovered during the project, the USFWS would be notified as well.

Raven- and coyote-proof trash containers would be provided for the proper disposal of all food-related trash generated on the construction site.

Because the project as planned would be spread over a period of years, tortoise surveys would be completed prior to each phase of the construction, e.g. prior to the construction of each building and each parking lot. Any tortoise surveys would be done by a qualified biologist in accordance with procedures outlined by the USFWS.

#### *2.2.3.3 Cultural Resources*

For the mitigation of impacts to cultural resources all ground disturbance would be monitored by an archeologist. Both construction activities and revegetation work would be monitored. If archeological resources were to be discovered, all work in the immediate vicinity of the discovery would be halted until the resources could be identified and documented and an appropriate mitigation strategy developed, if necessary, in consultation with the California State Historic Preservation Office. In the event that human remains, funerary objects, sacred objects, or objects of patrimony are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001) would be followed. A Discovery Plan is in place (see Appendix 7.1) and will be followed in the event of the discovery of human remains.

#### *2.2.3.4 Visitor Experience*

Mitigation of impacts to visitor experience would be accomplished by maintaining contact with the public during the construction period. Interpretive walks and talks in the Oasis of Mara would continue to focus on the landscape, with the integration of the proposed administrative complex into this landscape as a potential subtopic. Interpretive handouts detailing the construction's planning and long-term effects would be made available at the Oasis Visitor Center. Information on the proposed administrative upgrade would also be made available in informal interpretive situations, such as roving or visitor center desk contact.

## 2.3 Alternatives Eliminated from Detailed Study

The Council on Environmental Quality (CEQ) has mandated that a range of alternatives be explored and considered in environmental documents to insure that no reasonable alternative is overlooked. Part of this CEQ requirement is to present in every EA the alternatives that were eliminated from detailed study, in order to define the range of the proposed actions.

### 2.3.1 Lease Office Space in the Community

The Joshua Tree National Park Interdisciplinary Team (IDT) considered a proposal to lease office space in the local community through a General Services Administration (GSA) contract. There is currently a severe shortage of office space in the town of Twentynine Palms, either in the public or private sector. None of the space is capable of meeting the configuration or square footage needs proposed in the preferred alternative for the park's visitor protection, resource management or maintenance operations. Leasing of space, if it were available, would result in Ranger Operations (Law Enforcement), Maintenance and a portion of the Resource Management staff being located away from the Administrative offices and the Interpretive Operation. The Cultural Resources branch of the Resource Division would be separated from the rest of the division. This would remove them from GIS support and additional administrative needs. It is not possible to relocate the existing curatorial storage facility, which would result in a physically separated curatorial program. This separation of personnel would likely degrade communication and reduce opportunities for cooperation within divisions, thus reducing productivity and efficiency.

More importantly, the relocation of the administrative and maintenance offices of Joshua Tree National Park from their present location would likely set into motion a clause in the original deed that would adversely affect the present status of the Oasis of Mara parcel and all of its associated resources.

A review of the origination of ownership clearly shows that the 58-acre parcel surrounding and including the Oasis of Mara was not part of the enabling legislation that established the Monument. The Oasis property was deeded to the United States of America, with conditions and restrictions, from the Twentynine Palms Corporation on May 8, 1950, recorded in book 2571, page 523, Official Records of San Bernardino County. A detailed record of this transaction can also be found in the Joshua Tree National Park Museum, Collections Room, record L1417, Folder 027, JOTR Accession #651, JOTR Catalogue #19430.

Conditions and restrictions: *"The above described lands are conveyed subject to the condition that in the event the said lands shall cease to be used in connection with the administration, protection, and maintenance of Joshua Tree National Monument, the same shall thereupon revert to the grantor, its successors and assigns, which shall have the right to re-enter and repossess the said lands in the same manner as though this conveyance had not been made."*

In effect, this legal deed restriction, in combination with a plan to relocate ranger division, resource management, and maintenance operations to leased offices in town, could result in the forfeiture of the entire 58-acre NPS parcel to private ownership. The NPS deems this option "unreasonable" not only because it could result in a loss of property held in the public trust, but also because the subsequent impacts to all associated resources within the Oasis parcel would be significant.

Furthermore, in discussions concerning leasing within the City of Twentynine Palms, the City Manager stated there would be a reluctance on the part of the city council for the park to abandon its present location. Reversion of the properties to private ownership may create an opportunity for unchecked development around the Oasis of Mara, which the city does not desire. The city is in the process of developing a recreational and cultural

zone around the Oasis of Mara, incorporating a cultural center into their plans for the existing Art Museum and Historical Society properties located across from the park service lands. Impact to the socioeconomic interests of the adjacent community must be taken into consideration by NPS planners, and the alternative of leasing office space in town disregards the concerns of the immediately adjacent community.

In summary, the alternative of leasing office space in town was eliminated from further study because it (1) could result in the NPS forfeiture of the 58-acre Oasis parcel; (2) could result in significant and unmitigatable long-term impacts to all associated resources within that parcel, including Endangered Species; (3) would disregard the socioeconomic concerns of the adjacent community.

### 2.3.2 Construct Offices Individually

Another alternative considered by the IDT was a proposal to construct the Visitor Protection office, the Facility Management office, and the Resource Management office without integrating other aspects of the comprehensive plan. However, this proposal was deemed unreasonable because it: (1) disregards the directives of the 1996 *General Management Plan* (GMP) to create an integrated administrative complex; (2) sets up long-term conflicts with other structures and planning processes; (3) promotes inefficiency and waste. Therefore, it was decided that this EA should only consider a construction alternative “reasonable” if it were to be integrated into a planned administrative complex, as directed by the park’s GMP.

## 2.4 Summary of Alternatives and Environmental Consequences

This section summarizes the alternatives and their environmental consequences in table form. Table 1 is a comparative summary of the alternatives, and Table 2 is a summary of the environmental consequences. For explicit definitions of impact intensity, refer to section 4.2 and subheadings in this environmental assessment.

Table 1: Comparative Summary of the Alternatives.

| No Action Alternative   | Preferred Alternative  |
|---|--|
| No additional power would be supplied to Headquarters Area  | A 400-amp service drop would be installed  |
| No Visitor Protection office would be built; operations would continue to be conducted from non-accessible trailers | Temporary trailers would be removed and a permanent, accessible structure would be built to serve as an office for Visitor Protection                          |
| No Facility Management office would be built; operations would continue to be conducted from a temporary trailer    | A temporary trailer would be removed and a permanent, sustainable structure would be built to serve as an office for Facility Management                       |
| No Resource Management office would be built; operations would continue to be conducted from a temporary trailer    | A temporary trailer would be removed and a permanent, sustainable structure would be built to serve as an office for Resource Management                       |
| No additional Museum Collections storage would be constructed   | An additional wing to the Museum Collections storage facility would be constructed   |
| The Headquarters parking situation would remain static  | A covered parking area would be constructed for park employees, roofed with photovoltaic cells to provide electric power for the upgraded Headquarters Complex |
| No conference area or lunchroom would be built  | An employee conference and lunchroom building would be constructed   |

Table 2: Summary of Environmental Consequences

| Impact Topic                                | No Action Alternative   | Proposed Alternative   |
|---|---|--|
| Biotic Communities                          | The effect of the no action alternative on biotic communities would be negligible and long-term.  | If the preferred alternative were to be implemented, there would be negligible, adverse, short-term and long-term impacts to biotic communities. With mitigation as described in section 2.2.3.1, there would be minimal short-term habitat loss (<.5 acre), with the same amount of land rehabilitated upon project completion. Overall impact would be negligible under the preferred alternative.   |
| Species of Special Concern: Desert Tortoise | There would be negligible impacts to the desert tortoise from the no action alternative. Tortoises and/or tortoise habitat would remain unaltered.  | Negligible, adverse, short-term and long-term effects on the desert tortoise would result from the preferred alternative. With mitigation as described in sections 2.2.3.1-2, any impacts to tortoises and tortoise habitat resulting from the proposed construction would be maintained at negligible levels.   |
| Cultural Resources                          | There would be negligible to minor, adverse, long-term impacts on the view-shed of the Oasis of Mara as a result of leaving temporary trailers in place. However, there would be no ground disturbance under the no action alternative. | There would be disturbance to the southeast edge of archeological site CA-SBR-2052/H. During archeological work by Schneider (2003) all surface artifacts in the eastern developed end of the Oasis were mapped and collected. Forty-seven 50cmx50cm units were excavated to a depth of 50cm and auger borings sampled soil an additional 50cm. Two features were identified that are considered contributing elements but neither of these are in the Area of Potential Effect of this project. The project will not have an adverse effect on any contributing elements of this National Register eligible site. |
| Museum Collections                          | There would be minor, adverse, long-term cumulative impacts to museum collection's resources as a result of the no action alternative.  | If the preferred alternative were to be implemented the long-term impacts to museum collections would be beneficial and minor in intensity.  |
| Visitor Experience                          | There would be negligible, adverse, and long-term impact to visitor experience resulting from increased parking pressures under the no action alternative.  | There would be moderate, adverse, short-term impacts from construction activities to visitor experience in the Oasis of Mara area. Mitigation would be accomplished through formal and informal interpretive opportunities. The long-term impacts to visitor experience would be minor and beneficial.   |
| Park Operations                             | There would be moderate, adverse, long-term impacts to park operations resulting from the no action alternative.  | The short-term impacts to park operations would be potentially adverse during the construction period and negligible to minor in intensity. The long-term impacts of upgrading the administrative complex would be an increase in energy efficiency and safe, sustainable workplaces. These long-term impacts of the preferred alternative would be beneficial and moderate in intensity.  |

## 2.5 Environmentally Preferred Alternative

In accordance with DO-12, the NPS is required to identify the “environmentally preferred alternative” in all environmental documents. The environmentally preferred alternative is determined by applying the criteria suggested in the National Environmental Policy Act (NEPA) of 1969, which is guided by the Council on Environmental Quality (CEQ). The CEQ provides direction that “[t]he environmentally preferable alternative is the alternative that would promote the national environmental policy as expressed in Section 101 of NEPA, which considers

1. fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
2. assure for all generations safe, healthful, productive, and esthetically and culturally pleasing surroundings;
3. attain the widest range of beneficial uses of environment without degradation, risk of health or safety, or other undesirable and unintended consequences;
4. preserve important cultural and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice;
5. achieve a balance between population and resource use that would permit high standards of living and a wide sharing of life’s amenities; and
6. enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

Generally this means the alternative that causes the least damage to the biological and physical environment. It also means the alternative that best protects, preserves, and enhances historic, cultural, and natural resources.” (Council on Environmental Quality, “Forty Most Asked Questions Concerning CEQ’s National Environmental Policy Act Regulations” [40 CFR 1500-1508], *Federal Register* Vol. 46, No. 55, 18026-18038, March 23, 1981: Question 6a.).

The no action alternative represents the current Twentynine Palms Headquarters Area without any rehabilitation or upgrade. This alternative would not fully achieve provisions 1, 2, 3, 4, 5, and 6 of Section 101 of NEPA. In particular, the long-term safety and efficiency issues resulting from a policy of continuing to operate from substandard facilities would increase with time. The park’s museum collections would be similarly affected in the long term, by a lack of sufficient storage space.

The NPS preferred alternative would further the goals of provisions 1, 2, 3, 4, 5, and 6 by providing for a safe, sustainable administrative facility, complete with museum collections storage and renewable energy sources, in less impacted area than the current facilities. The National Park Service has determined that the environmentally preferable alternative is the preferred alternative, since it goes the furthest in attaining the goals of Section 101 of NEPA.



---

## 3 Affected Environment

### 3.1 Location and Background

Joshua Tree National Park is located in the Mojave and Colorado Deserts of southern California. It lies along the east-west transverse ranges of the Little San Bernardino Mountains. The southern boundary follows the base of these mountains along the northern perimeter of the Coachella Valley; the Morongo Basin defines the north boundary. The park is in San Bernardino and Riverside Counties.

Of the park's 794,000 acres, 593,490 are legislated wilderness—set aside for the preservation of natural, cultural, historic, and scenic resources. The park contains all or portions of numerous mountain ranges including the San Bernardino, Cottonwood, Hexie, Pinto, Coxcomb, and Eagle ranges. The eastern portion of the park averages 2,000 feet above sea level while the western half is mostly above 4,000 feet. Extremes in elevation range from 1,000 feet at Pinto Well to 5,900 feet at Quail Mountain. Major valleys include the Pinto Basin, Juniper Flats, Covington Flats, Pleasant, Queen, and Lost Horse.

Unusual desert plants and animals and spectacular geological features are important aspects of Joshua Tree National Park. The area also has a rich and varied cultural history. Joshua Tree was established as a monument of the national park system by presidential proclamation No. 2193 on August 10, 1936 (50 Stat. 1760) under authority of the Antiquities Act of 1906. Its enabling legislation states that the then-monument's "lands contain historic and prehistoric structures and have situated thereon various objects of historic and scientific interest." With the passage of the Desert Protection Act of 1994, the national monument became a national park and acquired jurisdiction of an additional 234,000 acres of land formerly administered by the Bureau of Land Management.

The park headquarters is located at Twentynine Palms at the Oasis of Mara in Township 1N, Range 9E, Section 33. The NPS owns the eastern portion of the oasis while the western portion is in private ownership. The NPS ownership encompasses 58 acres of the oasis and surrounding area, deeded to the NPS on January 10, 1950 by the Twentynine Palms Corporation, with the stipulation that the land be used "in connection with the administration, protection and maintenance of the [park]." Current headquarters' facilities, including the area of the proposed action, are on the eastern end of the NPS parcel. Existing visitor facilities include a visitor center, restrooms, a parking lot utilized by both visitors and employees, six picnic sites, a native plants garden, and a short self-guiding interpretive trail to the oasis. An administrative office is located immediately south of the visitor center. Other operational facilities include trailers serving as visitor protection offices, trailer pads, vehicle storage, recyclable materials storage, museum storage, research center, helipad, trailer serving as resource management office, and the Center for Arid Lands Restoration, which includes a nursery for the propagation of native vegetation. Utilities include water provided from the Twentynine Palms water district, power from Southern California Edison, and a septic system.

### 3.2 Biotic Communities

The Oasis of Mara is one of five California fan palm (*Washingtonia filifera*) oases in Joshua Tree National Park. The Oasis of Mara is unlike the other oases in the park because of its geographical position on an alluvial fan and in an urban area. Biotically, the boundary between oasis and desert is abrupt, as is the boundary between desert ecosystem and urban environment.

The oasis proper consists of a narrow, peninsular cluster of riparian vegetation that is approximately one mile long and follows an east-west axis. The NPS parcel on which the Oasis of Mara (Oasis) sits consists of two primary plant communities—made up of

those plants associated with the oasis itself, and the creosote flats which surround it. The affected biotic community of the proposed action and its alternatives is the creosote flats community. Creosote flats flora consists of creosote bush (*Larrea tridentata*), saltbush (*Atriplex spp.*), catclaw (*Acacia greggii*), alkali goldenbush (*Haplopappus arcradenius*), assorted cacti (*Opuntia spp.*) and grasses.

Wildlife typically associated with Joshua Tree National Park has been severely reduced in and around the Oasis of Mara as a result of prehistoric and historic human settlement, as well as by contemporary urban development in the surrounding community of Twentynine Palms. Large mammals, such as desert bighorn sheep, mule deer, and mountain lion, have never utilized the Oasis in historical record. Mammal species in the affected area include the Audubon cottontail, antelope ground squirrel, pocket gopher, little pocket mouse, long-tailed pocket mouse, and coyote. A similar paucity of species is reflected in Oasis-area reptile populations as compared with the park's overall numbers. There are 18 species of lizard and 25 species of snake found in Joshua Tree National Park; in the Oasis district, the species numbers are 8 for lizards and 8 for snakes (De Lisle, 2001). Over 270 species of birds live in or fly through the park, which is adjacent to a major migratory flyway in the Coachella Valley. Some of the most common avian species utilizing the Oasis year-round include phainopepla, mourning dove, black-tailed gnatcatcher, barn owl, and Anna's and Costa's hummingbirds. Migratory species include turkey vulture and white-crowned sparrow, and more infrequently sage sparrow and LeConte's thrasher. Common residents of the surrounding creosote flats community include roadrunner and Gambel quail, and various species of wren, flicker, towhee, and sparrow.

### 3.3 Species of Concern

The desert tortoise, *Gopherus agassizii*, is listed as a threatened species by the FWS (50 CFR 17.11 & 17.12). Joshua Tree National Park is a designated Desert Wildlife Management Area (DWMA) under the 1994 Recovery Plan for the desert tortoise (Section II.B and E). As a DWMA, the NPS implements recovery actions to provide for the long-term persistence of viable desert tortoise populations (FWS 1994). The primary threats to the tortoise, identified in the Recovery Plan, include loss of habitat, habitat degradation (exotic weeds), mining, grazing, off-road vehicle use, and urban sprawl.

Karl (1988) estimated that the highest tortoise densities tend to occur in "creosote bush scrub where the topography was flat or rolling and the soil was fine-gravelly with or without boulder outcrops and scattered large gravel and cobbles." Although the habitat surrounding Joshua Tree National Park Headquarters may have once been ideal, impact from the surrounding roads, housing developments, and existing park structures have deteriorated the tortoise habitat within the construction footprint and buffer zone.

Approximately 4200 square meters of the Headquarters area were surveyed for the desert tortoise from November 25-26 and on December 2, 2002, by park biologists Jane Ashdown and Margaret Adam. The techniques applied in these surveys are based on information from *Field survey protocol for any federal action (or non-federal action) that may occur within the range of the desert tortoise* (USFWS 1992). The methods used consisted of a 100 percent survey of the construction footprint and minimum 50-meter buffer zone. All areas were surveyed for signs of tortoise presence, including burrows, scat and dead tortoises. When tortoise sign was found, additional surveys extending at a 50-foot perimeter from the tortoise sign were also conducted.

Two possible tortoise burrows were found, but neither was active and both were in poor condition. One possible burrow is at E 588709, N 3776594 and the other is at E 588677, N 3776679 (UTM NAD83). No other sign of tortoise presence was found. Historical sightings of desert tortoises in the Oasis area include one tortoise at the west end of the NPS parcel on March 6, 1994, a tortoise roadkill on Utah Trail on September 5, 1996, and a tortoise near the Oasis Nature Trail on March 7, 1999. The possibility exists that these

tortoises were abandoned pets, as no other tortoise sightings in the vicinity have been reported since the park began actively collecting data on tortoises in all areas in 1991.

*Linanthus maculatus*, a globally rare/sensitive species of concern, has not been found in the 58-acre Oasis parcel despite annual surveys by Park Vegetation Specialist Jane Rodgers, the most recent of which took place in 2002.

## 3.4 Cultural Resources

### 3.4.1 Overview

Archeological and historic resources in the region of Joshua Tree National Park may reflect as much as 11,000 years of human use and occupation (NPS 1996a). Such a statement is based upon the work of National Park Service archeologists, as well as those outside the agency, some of whom have done contract work for the park. Examples in the literature include works of Elizabeth Campbell (1931), Elizabeth Campbell and William Campbell (1935), Joan Schneider and Claude Warren (1992), and Claude Warren and Joan Schneider (1992, 1993).

The prehistory of the Oasis of Mara is relatively unknown, but considering the harsh environment of the Mojave it is reasonable to assume that the Oasis was exploited by all inhabitants or transients in the area because of its specific micro-environmental conditions. This type of specialized exploitation of micro-environments and the use of water sources as base camps or seasonal villages seems to be an adaptive strategy common to arid lands people throughout the world, and anthropologists have estimated that the California desert oases have attracted humans for at least 11,000 years (Baker 1970). Miller (1978) documents Serrano habitation at the Oasis of Mara as early as 1710 and speculates that Serranos cultured the Oasis for centuries, if not longer. Ethnographic resources reveal that the Serrano gave the Oasis its name, *Maara*. Tribal members continue to identify the Oasis of Mara in Twentynine Palms as a point of origin for “the Orthodox Serrano” of *Maringa* descent (Bean and Vane 2002:7-8).

Archeologically, the specific chronologies are still debated, since the diversity of artifacts is only sufficient to establish broad regional sequences that cover long time periods (Tagg 1983). From 8,500 to 5,000 years ago the main trends in human occupation of the area reflect an adjustment to the region’s various natural environments and increased subsistence efficiency. A useful model for understanding this long-lasting adaptation to desert living documented by archeological artifacts in the region is the “Desert Culture” or “Desert Archaic.” As playa lakes began to dry and desert plants replaced the grasslands many large game animals migrated to more favorable habitat. The drier conditions also meant that the peoples living in the region had to diversify subsistence patterns to adapt to a life based on desert hunting and gathering. This mode of living is characterized by small, mobile bands and by participation in a mixed hunting and gathering economy. Although milling equipment, the bow, ceramics, and even horticulture were added to the culture over time, the basic configuration of the culture may have remained relatively stable (Jennings 1964; Fowler 1986).

After about A.D. 1000, judging from the frequency of sites that date within the last thousand years, occupation of the park area increased considerably. At the time of European contact, the boundaries of three groups—the Cahuilla, Chemehuevi, and Serrano—intersected at a point now in the park. The Cahuilla occupied southern and southwestern portions of the park; the Chemehuevi eastern portions; and the Serrano, northern and northwestern portions (Bean and Vane 2002). The Oasis of Mara area was inhabited by Serranos in the 1850s and early 1860s. The Oasis was tacitly recognized as an Indian reservation as early as 1856 but the land was never officially deeded. The Serranos left in the early 1860s and then returned to Mara in 1867-1868, to find the Chemehuevis living there. The Chemehuevis had lived at the Oasis many times before the 1860s, as had other groups (Bean and Vane 2002). A permanent village was established by members of both tribes, located on the west side of the Oasis, past the current park boundary, on

what is now privately owned land. With the exception of the Old Adobe (1890-1947), no significant evidence of long-term pre-historic or historic occupation has been located within the NPS owned portion of the Oasis (Tagg 1983; Schneider 2003).

Descendants of all affiliated tribes continue to live in the region and maintain cultural interests in the park. There are ongoing tribal requests to gather plants for traditional uses and for visits to the park's curatorial facility to examine ethnographic and archeological artifacts. For further consultation, the possibility exists of sacred sites being identified within the park (Schneider 1992). The major ongoing tribal concern relates to the possibility of discovering burials of human remains. The need would then exist to follow through with prompt notification to and consultation with the neighboring tribes. Buried human remains of cremations have been found in the park (Schroth 1992). The park staff, in concert with tribal representatives, successfully completed repatriation of the remains of several individuals, associated funerary objects, and objects of patrimony in June 1992. This was done in accordance with the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), which would also govern any future NPS action in this regard.

Mining, ranching, and homesteading all occurred in the Oasis area now encompassed by the park. An arrastra for crushing ore and an adobe structure used alternately as a post office and ranch house were demolished before the deeding of the parcel to the NPS in 1950. Much of the historical surface remains were removed by early park cleanup efforts, and by the continual surface collection of artifacts by private collectors (Tagg 1983). In spite of a paucity of historic or prehistoric remains, the Oasis of Mara was determined eligible for the National Register of Historic Places (NRHP) as a 40-acre district in March 1978 (*Federal Register* V.43, No. 45, Tuesday, March 7, 1978). The location of the 40 historic acres within the 57.839-acre NPS parcel was never clarified by the accompanying map.

### **3.4.2 Review of Specific Cultural Resources Literature Related to the Oasis of Mara**

At the Oasis of Mara many archeological and other types of cultural resource projects have been completed. Three large-scale archeological excavation projects carried out on NPS property are of particular note and are discussed below (Tagg 1983; Svinarich 1998a; Schneider 2003). There was also a survey project on a non-NPS parcel north of National Park Drive (Leonard and Lerch 1980) and there have been two currently undocumented excavations carried out on the western, privately owned portion of the Oasis, conducted by instructors at Copper Mountain College and Antelope Valley College. These projects were on northern and western portions of the Oasis site.

Although it is likely that early archeologists Elizabeth and William Campbell, operating during the late 1920s and early 1930s, explored the Oasis a cursory review of their notes did not reveal any specific details about the site.

In 1971 a National Register of Historic Places nomination form was developed by R. Ross Holland, Jr., Historian at the NPS Denver Service Center. The nomination incorporated 40 acres of land and has very brief descriptions of the site. The entire Nomination consists of just four pages with longitude and latitude of the four corners of the 40-acres. These map coordinates were incorrectly recorded and place the National Register site mostly to the south of the NPS property, clearly not the intention of the nomination.

The following paragraphs quote the information presented:

“This oasis, important to the Indians, changed appearance over the years as mans’ activities changed. The native Washington palms, watered by the oasis, saw miners come and work their claims, having their ore processed by the *arrastra* method and also by the five-stamp and later a two-stamp mill. Several wooden structures at the oasis housed these people. An adobe structure was later erected; in time it became the chief landmark of the oasis along with a fig tree planted nearby. At least two wells were dug to supply water for human consumption.

In time all these marks disappeared and today for the most part only sites remain. Depressions in the ground denote the location of the wells, and a few stones of the *arrastra* remain in place. A cornerstone from the two-stamp mill can be seen. The fig tree is now huge and still bears fruit.”

“Originally called the Oasis of Mara, which was the nearest the travelers to the area could get to the Indian pronunciation, Twentynine Palms Oasis became the focal point of the settlement of this area. The old adobe erected there around 1890 by Bill Neaves and Jack Rankin, in time became a stage stop on the run between Banning and the mining town of Dale. It was removed (sic) 1947. A huge old fig tree still standing and bearing fruit behind the house site was planted in 1895.

Two millsites and the remains of an *arrastra* bear witness to the mining activity in the vicinity; one of the mill sites dates back to 1874. Several wells and home sites further testify to man’s presence in the area.

From this activity around the Twentynine Palms Oasis since the early times of the Indian and later white man, the area became settled and the present town of Twentynine Palms came into being.”

In 1973 George Jefferson conducted a survey and clearance for an addition to the park Visitor Center. One “opal” flake was observed about 75 feet west of the northwest corner of existing Visitor Center and 30 feet south of northern Park boundary.

In 1973 a Trip Report (Anderson 1973) was written documenting a survey at the Oasis for proposed USGS test wells and new construction near headquarters. Anderson recommended that the clearances for both undertakings be approved. Based on this report a clearance for burning mesquite trees at the Oasis was requested of the Western Archeological and Conservation Center (WACC) in 1974 by JOTR Superintendent Rouse and was granted

The Federal Register (V. 43, No. 45, Tuesday, March 7, 1978) lists the Oasis of Mara as having been determined eligible for the National Register of Historic Places. This determination was presumably based upon the National Register nomination written by Holland in 1971.

In 1979 an archeological site record was written for the Oasis and it was given the state site number of CA-SBR-2052/H (Kearins, et al.). The record describes twelve surface features including ash lenses, midden, or dark soil on surface south of the nature trail, as well as some scattered ceramic sherds, and a hearth (4 m<sup>2</sup>) with sherds and cobbles. Historic features included a trash concentration, concentration of animal bone, and flat-topped mounds composed of gravel-sized rock and dirt, which could be waste from mills that operated on the premises in the past. Scattered about the site the crew also noted historic pottery, a glass bottle, food containers, cow bone, wire, etc. There was a light scatter of sherds and flakes, however, no concentration of prehistoric artifacts was found.

Disturbances noted in the 1979 site record included ethnographic and prehistoric activity, afterwards disturbed by historical use, such as: a paved nature trail cutting through the Oasis; a wall around the Oasis resulting in deep arroyo cutting; filling of gullies with macadam; trenching around trucks of mesquite trees; septic tank installation; and construction of a dirt road. Midden soil was seen eroding out of cut banks.

The Site Record further states:

“Very few sites of this type exist in the southern Colorado/Mojave deserts areas. No sites of this type have been excavated...thus increasing its importance. The potential for surface water to have been available in the past makes it a likely location for all groups who inhabited this area...”

“Ethnographic sources indicate primary group was Serrano. After Chemehuevi war on the Colorado River, some moved to the Oasis and resided with the Serrano there.

The Cahuilla and Southern Paiute may have occasionally visited the Oasis.”

In August 1980 a cultural resources study of the Shuffler Property at the Oasis of Mara was conducted by JoAnne C. Leonard and Michael K. Lerch. This study concerns surface and subsurface cultural resources directly north (and across National Park Drive) of the NPS parcel at the Oasis. A surface survey and an excavated trench revealed artifacts, features, and midden deposits. It is upon the results of this study that the boundary for CA-SBR-2052/H, as plotted on the Archaeological Information Center base maps (AIC) at San Bernardino County Museum, extends to the north of the NPS parcel.

An early 1980s handwritten report (9 pages) by Michael K. Lerch, containing ethnographic information about the Oasis, is filed at the AIC for San Bernardino County. The report is marked “Grayce file”, but there is no specific date on the document. It is likely that this handwritten document was written in the early 1980s, perhaps as part of the study by Leonard and Lerch (1980).

In 1983 a major archeological study was conducted as a result of a proposed undertaking to install an irrigation line for the palm trees at the Oasis. Archeological research, survey, and excavations were conducted by Martyn Tagg (1983). Tagg and his associates found both prehistoric and historic components of the site. All the prehistoric components that could be identified were of the Late Prehistoric period, but there were “hints” that there may be an earlier Archaic component. Artifacts were found to a depth of 180 centimeters. All work was conducted between the southern loop of the existing Nature Trail at the Oasis and the dirt trail to the westernmost palm trees. Working from historical photographs and archaeological findings, Tagg suggested that the greatest potential for subsurface deposits would be at his Locus A, Features 7-10 and 16 (west of the current project area). No investigation of the area of the thick mesquite stand was made. Tagg also noted that there was evidence of prehistoric occupation to the north of the Oasis proper and that the location of the Village of Mara was likely at the western end of the Oasis proper on the private land of the 29 Palms Inn.

In April 1985 Richard Ervin conducted an archeological survey and clearance for the construction of a greenhouse. The clearance involves a 40- x 40-meter square area immediately southwest of the maintenance compound at the Headquarters’ complex. No cultural resources were located during the survey. The greenhouse is just outside of the western edge of the Area of Potential Effect (APE) for the current project.

In August 1987 a survey was conducted by archaeologist Trinkle Jones for installation of a gas line adjacent to visitor center. The line was to be installed close to existing structures and following their outline. No cultural resources were noted.

In 1992 an archeological clearance was conducted by George Teague (1982a) for widening sections of the existing Oasis trail for handicapped access and interpretation. A walkover by Teague revealed no cultural materials. The clearance was approved based this and previous work by Tagg (1983).

In 1995 five “Assessment of Actions Having an Effect on Cultural Resources” forms pertaining to the Oasis were filled out. One was for the emergency replacement of 180 feet of deteriorating and leaking water line in administrative area (Pepito 1995a). From the form it is unclear exactly where the project was located. The second form was for the revegetation of a non-historic road in the Oasis (Pepito 1995b). This road network is located west and south of the visitor center and does not appear to extend into the project area. The third form was regarding installation of a windbreak and landscaping on the west side of the nursery to obscure it from view by people using the Oasis of Mara interpretive trail (Pepito 1995c). The western portions of the nursery are not within the APE of the current project. The fourth form was for a trench to install a water meter east of the Oasis administrative area (Pepito 1995d). The fifth project was for a trench to connect local area network at the Oasis (Pepito 1995e). This trench goes from the south end of the administration building to offices south of that point, thus placing the

disturbance in the APE. All work was to be monitored by a resources staff person. No resulting monitoring reports infer that no cultural resources were discovered.

In 1996 Joan Schneider conducted a survey and a small test excavation unit for the installation of a seismic sensor box at the Oasis of Mara. One sanitary seam tin can and a piece of iron rebar were noted on the surface. A 50- by 50-centimeter unit was excavated to the depth of 18 centimeters. One small piece of white cloth was the only cultural item recovered. This project was not in the APE for the current proposed construction project.

In 1997 Claude Warren and Joan Schneider conducted an archaeological study at the southeast end of the Joshua Tree National Park Visitor Center, within the current APE. The impetus for this work was the anticipated expansion of several facilities at the Visitor Center. They reported that the area was highly disturbed with signs of modern debris. They established four datum points with a transit and stadia rod. Surface artifacts were recorded and mapped, but not collected, from these datum points. Native American artifacts included flake detritus from tool maintenance and manufacture, pottery sherds, and unfired red-brown clay lumps. Historic artifacts included black-glazed and green-glazed ceramic sherds, melted glass, purple glass, cartridges, and an irregular glass marble. The occurrence of Lower Colorado River pottery suggests that the occupation of the southeast end of the Oasis was during the late prehistoric times and that there was considerable contact between the peoples of the Colorado River Valley and the people in the vicinity of the Little San Bernardino Mountains. They cautioned that this was based on tenuous limited data. They hypothesized that red-brown unfired clay lumps may be remnants of clay used in aboriginal pottery making in the immediate area and that these artifacts may provide important data regarding source of clay and temper in the local manufacture of pottery.

A Trip Report dated December 24, 1997 was written by George Teague (1997b) to document his visit to the park on December 3, 1997. During this visit he inspected the location of a proposed septic system northwest of the Visitor Center and identified it as being in Locus B of CA-SBR-2052/H. The Locus B designation originated with Martyn Tagg's 1983 study. After informal consultation with the State Historic Preservation Office it was decided that a test pit was needed in the immediate area prior to project work.

In 1998 test excavations were conducted at the Oasis by Joseph Svinarich (1998a) for the above noted septic system. The park was proposing the installation of a 6,000 gallon septic tank and the creation of a leach field in the area northwest of the existing visitor center. The septic system area of impact consisted of approximately 60 by 70 feet (4,200 square feet). Svinarich stated that this area is clearly visible northwestern of the visitor center. Work carried out for the rehabilitation of the sewer system included intensive re-survey of Locus B of CA-SBR-2052/H; shovel pits placed 30-meters apart; and excavation of two one- by one-meter test units within the area of direct impact and placed in areas based on concentrations of surface materials or findings from shovel test pits. While materials were found on the surface, test excavation in 1998 revealed minimal cultural materials below the surface. It was determined that there would be no adverse effect from the proposed undertaking. Monitoring was conducted by park cultural resources manager, Jan Keswick, during project ground disturbance; no buried deposits were noted.

Following the test excavation an "Assessment of Actions Having an Effect on Cultural Resources for the Installation of Septic System at Cottonwood Visitor Center, JOTR, and Rehabilitation of Septic Systems at Headquarters (Locus B) and at the Cottonwood Visitor Center" (Svinarich 1998b) was completed and signed. An updated 1998 Site Record for Locus B of SBR-2052 /H was also completed by Jill Mayo, Svinarich, and Winters following the 1998 excavations by Svinarich.

In 1998 Ronald Beckwith completed a clearance project for construction of 24- by 40-foot modular building foundation just south of the current administrative offices. The foundation was to be constructed on 10 inches of fill. Under number 12 of the Clearance,

the author states that evaluation of the site by Tagg (1983) and by Svinarich (1998a) indicates that the site ends at least 50 meters to the west of the Visitor Center; this is *not* indicated in either of the reports cited.

In 1998 an archeological survey and clearance was conducted in the southeast portion of the NPS parcel for the removal of a block wall and two trailers and for the installation of a modular unit for the resources management offices (Keswick 1998). A survey revealed no archeological materials on the surface of the ground. The excavation was monitored and a possible hearth was unearthed composed of charcoal and rock, but no artifacts were noted (Juliana 1998). This feature was mostly destroyed by heavy equipment, however, burnt rocks and ash were collected; to date this material is unaccessioned. This area is in the APE of the current project.

In 2000 a survey and clearance for the placement of a lost and found storage shed next to the ranger activities' building was conducted (Keswick 2000b). No cultural resources were found either during the survey or in the course of monitoring.

In 2000 an "Assessment of Actions Having an Effect on Cultural Resources" form was filled out to retrofit park Headquarters for sustainability (Keswick 2000c). This included replacement in-kind of all structural laminated support beams and patio cover and shade structures, replacement of concrete patios, and a 30-foot long, one-foot deep drain on the west side of the patio. Ground disturbing activities were monitored by the park archeologist and no cultural resources were found. This area is not in the APE.

In 2000 a determination of eligibility for the National Register was developed by Carey & Company for the Visitor Center Complex at Twentynine Palms. The contractor's opinion was that the Visitor Center Complex does not have the historic significance to meet National Register criteria under Criterion Consideration G under a Mission 66 theme. (Mission 66 was an NPS construction and improvement program during the 1960s.) The opinion was that the buildings are not exceptional examples of Park Service Modern style. The State Historic Preservation Office (SHPO) agreed with this determination.

A Level 1 Cultural Landscape Inventory for the Oasis of Mara was written and approved in April 2002 (Luellen and Provencher 2002). In this document, the cultural landscape at the Oasis of Mara (Twentynine Palms Oasis) was found ineligible for the National Register of Historic Places because of a lack of integrity. Included are assessments of buildings, circulation networks, and vegetation. This is a well-researched document, with an extensive bibliography.

In 2002 an Assessment of Actions Having an Affect on Cultural Resources form was completed for implementing a grid buy-down system at Headquarters (Keswick 2002a). This system will be implemented adjacent, and to the northwest of, the construction area.

Between 1998 and 2002 there were eight additional clearances pertaining to undertakings at the Oasis written based on the absence of archeological remains noted in previous field surveys (Keswick 1999a, 1999b, 2000a, 2001a, 2001b, 2001c, 2002b; Sabala 2002). These projects ranged from landscaping, installation of nursery hardware cloth, the installation of various pipes and lines, the construction of the cooperating association offices, to geotechnical drilling. Seven of these undertakings were monitored by the park cultural resources manager and no artifacts were noted (the eighth project was never done). Ash lenses, or bits of charcoal, were sometimes seen in excavations but these were thin or sparse and appeared to be the result of natural fire events. There was a possible hearth with a few rocks associated found during the excavation for Compressed Natural Gas (CNG) fill stations (Keswick 2000a) but no artifacts were seen. The trench for the CNG pipe was raised up several inches at the west end where the possible feature occurred and the charcoal and rock were left in place. The CNG fill stations are in the APE.

In December of 2002 and January of 2003 an archeological field project was completed to address several issues at the Oasis of Mara Headquarters' area (Schneider 2003).



This work was necessary because the original National Register form is outdated and site boundaries are ill defined. Schneider's draft report includes a review of all previous cultural resources work completed at the Oasis, addresses site integrity, defines contributing National Register elements, and redefines site boundaries. The report is currently in progress and will include an updated National Register of Historic Places form with contributing elements and boundaries redefined as well as an updated site record.

Fieldwork for this project consisted of intensive survey, mapping, and collection of all cultural materials from the surface of 66,500 square meters in the developed eastern portion of the NPS-owned 57.839 acre portion of the Oasis. Prehistoric and historic items and features were mapped on the project map. The surface collection included 413 items. Three surface features were located: (1) a concentration of historic household trash, (2) a concentration of lithic debitage, and (3) a concentration of ground stone objects that was likely a secondary deposit that was the result of actions by Park staff in previous years. Otherwise, all materials were sparsely distributed across the surface of the project area. None of the above mentioned surface features were in the APE of the project.

Forty-seven randomly selected 50- by 50-centimeter Test Units were excavated to 50-centimeter depth and then augered to a total depth of one meter. According to Table 9 of Schneider's report (2003), 22 units contained cultural artifacts (cobbles and charcoal are excluded from this count). Four of these units were found to have materials that indicate disturbed cultural deposits (4, 27, 34, and 43).

Two subsurface features were discovered, remains of a habitation site, probably the Old Adobe, and tailings from a gold mill. Neither of the two subsurface deposits are in the APE of the project.

### **3.4.3 Summary of Cultural Resources**

The historic component of the Oasis of Mara has been documented to a far greater extent than the prehistoric component. The Holland (1971) National Register eligibility assessment, historic maps showing the locations of the Old Adobe and stamp mills, an arrastra, and other historical features, as well as textual descriptions of life at the Oasis (e.g., Bagley 1978; Campbell 1961, Kidwell 1987) attest to the historic importance of the Oasis, particularly the NPS-owned eastern end, as a nexus of historic-period human activity in the area. From the studies that have been carried out that included archeological excavation (Tagg 1983; Svinarich 1998; Schneider 2003), and preliminary studies on lands contiguous with NPS portion of the Oasis, it is apparent that the major portion of the prehistoric component of the site lies along both sides (i.e., north and south) of the Pinto Mountain fault, with increasing depth of deposit to the west of the existing Headquarters Visitor Center complex. The depth of the subsurface deposit (Tagg 1983) and the present topography of the surface also indicate that substantial midden is present to the north side of the fault line, northwest of the project area.

Almost all prehistoric materials point to Late Prehistoric occupation of the Oasis. Historical texts document that both indigenous peoples and Euroamericans lived at the Oasis in relatively recent times but there is less understanding of how far back in time occupation extends.

The studies in the eastern portion of the NPS owned property at the Oasis have documented a sparse surface scatter of prehistoric and historic materials and relatively shallow deposits of both prehistoric and historic materials. Schneider's 2003 study at the eastern end of the NPS owned parcel documented three surface and two subsurface features, neither of which are in the APE of this project. All surface artifacts were collected during this project. Schneider also demonstrated the APE has been heavily disturbed and that there is little integrity remaining.

Clearances for projects in the eastern end of the Oasis, in and around the NPS Headquarters and Visitor Center complex, have included recommendations to monitor

all earth-moving activities. During monitoring, ash lenses and two possible hearths have been found. Some of the features may be the result of natural surface brush fires, while others may be the remains of campfires; no artifacts have been found in association with any of these features. Since the Oasis has been the site of human occupation from prehistoric times to the middle of the 20th century and beyond, there is no way to determine the chronological placement of the discovered ash and charcoal features other than by radiocarbon dating of available charcoal or ash samples.

There have undoubtedly been numerous actions undertaken by the park over the years that have resulted in undocumented disturbances to the APE.

### **3.5 Museum Collections**

Joshua Tree National Park's Museum Collections storage space (1548 square feet) is nearing full capacity with an expanding artifact and archival collection of 180,000 accessioned items and 150,000 unaccessioned and uncataloged items. In addition to active cultural and natural resources programs, the park has recently initiated a paleontology program, which will generate added storage needs. There is currently inadequate space for museum supplies, inadequate preparatory work space, and inadequate space for the proper storage of unaccessioned or uncataloged items.

### **3.6 Visitor Experience**

Over 97,000 Joshua Tree National Park visitors stopped at the Oasis Visitor Center in fiscal year 2001. The Oasis Visitor Center, adjacent to the proposed action, is identified in the *General Management Plan* (1996) as the primary visitor contact station in the park. Outside, there are bathroom facilities, a desert plants exhibit garden, and a one-half-mile nature trail around the Oasis of Mara. Inside the visitor center are interpretive natural history exhibits, a desk contact station, and a cooperative association bookstore. In recent years, the combination of inadequate employee parking and increased visitation has resulted in peak-season stresses on the amount of parking available in the visitor center parking lot (Wilbur Smith Associates, 2002). The visitor center lot has 39 regular-sized spaces, including two handicapped-accessible spaces, and three oversize parking spaces.

### **3.7 Park Operations**

Present Visitor Protection operations are conducted out of two 1960s-era converted trailer residences, a salvaged real estate office, and a portable shed. All units fail to comply with accessibility standards. All units are deteriorated to the point that it is impossible to maintain comfortable temperature ranges in hot or cold extremes. Structures are not weather-tight, resulting in wasted energy output in all seasons.

The current 800-square-foot space allotted to Facility Management is not adequate to accommodate three foremen, a landscape architect, a program assistant, the facility manager, and the office automation clerk. The current Facility Management office also lacks adequate electrical and data wiring to meet the operational demands of today's internet-based workplace. Special-needs project managers from the Western Archeological Conservation Center (WACC), Denver Service Center, and Federal Highways Administration are unable to conduct business within the existing work environment when they are supervising projects in the park.

A 26-year-old, triple-wide trailer currently serves as an office space for the park's Resource Management division. Electrical power is tapped for the current arrangement of Visitor Protection, Facility Management, and Resource Management structures, creating frequent brown-outs during times of peak electrical demand.

---

## 4 Environmental Consequences

### 4.1 Introduction and Methodology

This section describes and analyzes the environmental consequences associated with the alternatives. The environmental consequences are assessed by a full range of NPS personnel, including facility managers, cultural and natural resource specialist, interpretation and visitor use specialists, park planners, law enforcement personnel, and the park's environmental compliance staff. Impacts are determined or predicted based on a full and open interdisciplinary evaluation of all available relevant technical and scientific information.

An impact matrix and its subheadings are defined in section 4.2. Subsequently, the environmental consequences section is organized by alternatives. First, the effects of the no action alternative will be discussed, as these effects relate to each impact topic. Then, the effects of the proposed action will be discussed, as these effects relate to each impact topic. Pursuant to National Park Service policy, the potential for “impairment” of critical resources will also be evaluated in this section of the environmental assessment.

### 4.2 Definitions

The following definitions are provided to standardize the type, context, duration, and intensity of impacts associated with the EA alternatives. “Impairment” is also defined to clarify the analysis. A timeline of past, present, and future NPS actions in the area is presented to accurately assess cumulative effects of the alternatives. Finally, a discussion of Section 106 of the National Historic Preservation Act is provided to focus the analysis of impacts to cultural resources.

#### 4.2.1 Type, Context, Duration, and Intensity

Potential impacts to biotic communities, species of special concern, cultural resources, museum collections, visitor experience, and park operations, are described in terms of type (are the effects beneficial or adverse?), context (are the effects site-specific, local, or regional in scope?), duration (are the effects short-term, lasting less than ten years, or long-term, lasting longer than ten years?), and intensity (are the effects negligible, minor, moderate, or major?). Because definitions of intensity vary by impact topic, intensity definitions are provided separately for each impact topic in Table 3.

Table 3: Definitions of “Intensity of Impact,” by impact topic.

| Impact Topic       | Negligible   | Minor  | Moderate   | Major   |
|--------------------|--|--|--|---|
| Biotic Communities | Biotic communities would not be affected or the effects would be at or below the level of detection, and the changes would be so slight that they would not be of any measurable or perceptible consequence to the biotic communities. | Effects to biotic communities would be detectable, although the effects would be localized, and would be small and of little consequence to the species' population. Mitigation measures if needed to offset adverse effects would be simple and successful. | Effects to biotic communities would be readily detectable and localized with consequences at the population level. Mitigation measures if needed to offset adverse effects would be extensive and likely successful. | Effects to biotic communities would be obvious and would have substantial consequences to biotic communities in the region. Extensive mitigation measures would be needed to offset any adverse effects and their success would not be assured. |

| Impact Topic               | Negligible   | Minor  | Moderate   | Major  |
|----------------------------|--|--|--|--|
| Species of Special Concern | No federally listed species would be affected or the alternative would affect an individual of a listed species or its critical habitat, but the change would not be of any measurable or perceptible consequence to the protected individual or its population. Negligible effect would equate with a "no effect" determination in USFWS terms. | The alternative would affect an individual or individuals of a listed species or its critical habitat, but the change would be small. Minor effect would equate with a "may effect" determination in USFWS terms and would be accompanied by a statement of "likely..." or "not likely to adversely affect" the species.   | An individual or population of a listed species or its critical habitat would be noticeably affected. The effect would have some consequence to the individual, population, or habitat. Moderate effect would equate with a "may effect" determination in USFWS terms and would be accompanied by a statement of "likely..." or "not likely to adversely affect" the species.  | An individual or population of a listed species or its critical habitat would be noticeably affected with a vital consequence to the individual, population, or habitat. Major effect would equate with a "may effect" determination in USFWS terms and would be accompanied by a statement of "likely..." or "not likely to adversely affect" the species.  |
| Impact Topic               | Negligible   | Minor  | Moderate   | Major  |
| Cultural Resources         | There would be no perceptible consequences to the integrity of contributing elements of NR eligible or listed cultural resources. For purposes of Section 106, the determination would be <i>no historic properties affected</i> .   | Disturbance to the integrity of contributing elements of a NR eligible or listed cultural resource would be confined to a small area or limited in scope. For the purposes of Section 106, the determination would be <i>historic properties affected</i> .<br><br>Beneficial impact-preservation of a cultural resource in its current state or impact to non-contributing elements of a site. For purposes of Section 106, the determination would be <i>no historic properties affected</i> . | Disturbance to the integrity of contributing elements of a NR eligible or listed cultural resource would occur, but integrity of the resource would be maintained. For the purposes of Section 106, the determination would be <i>historic properties affected</i> .<br><br>Beneficial impact-work would occur to actively maintain the resource or impact would be to non-contributing elements of a site. For purposes of Section 106, the determination would be <i>no historic properties affected</i> . | Disturbance to the integrity of contributing elements of a NR eligible or listed cultural resource would result in the loss of most or all of the resource's integrity. For the purposes of Section 106, the determination would be <i>historic properties affected</i> .<br><br>Beneficial impact-active intervention to develop the resource. For purposes of Section 106, the determination of effect would be <i>no historic properties affected</i> . |

| Impact Topic       | Negligible   | Minor   | Moderate  | Major  |
|--------------------|--|---|---|--|
| Museum Collections | Museum collections would not be affected or the effects would be beneficial, or at or below the lower levels of detection. There would be no effect on museum collections or associated resources. | The effect would be detectable but would be of a magnitude that would not have an appreciable effect on museum collection's resources. If mitigation were necessary to offset adverse effects, it would be relatively simple and likely successful. | The effects would be readily apparent and would result in a noticeable change in the structure and efficacy of museum collections. To offset adverse effects to museum collection's resources, mitigation measures would be necessary and most likely successful. | The effects would be readily apparent and would result in a substantial change in museum collection's structure and efficacy. Mitigation measures to offset adverse effects would be needed, would be extensive, and their success could not be assured. |

| Impact Topic       | Negligible   | Minor  | Moderate   | Major   |
|--------------------|--|--|--|---|
| Visitor Experience | Visitors would not be affected or changes in visitor experience or safety would be below or at the level of detection. The visitor would not likely be aware of the effects associated with the alternative. | Changes in visitor experience or safety would be detectable, although the changes would be slight. The visitor would be aware of the effects associated with the alternative, but the effects would be slight. | Changes in visitor experience or safety would be readily apparent. The visitor would be aware of the effects associated with the alternative and would likely be able to express an opinion about the changes. | Changes in visitor experience or safety would be readily apparent. The visitor would be aware of the effects associated with the alternative and would likely express a strong opinion about the changes. |

| Impact Topic    | Negligible   | Minor   | Moderate  | Major   |
|-----------------|--|---|---|---|
| Park Operations | Park operations would not be affected or the effect would be at or below the lower levels of detection. There would be no appreciable effect on park operations. | The effect would be detectable but would be of a magnitude that would not have an appreciable effect on park operations. If mitigation were necessary to offset Adverse effects, it would be relatively simple and likely successful. | The effects would be readily apparent and would result in a substantial change in park operations in a manner noticeable to staff and the public. Mitigation measures would probably be necessary to offset adverse effects and would likely be successful. | The effects would be readily apparent, would result in a substantial change in park operations in a manner noticeable to staff and the public. Mitigation measures to offset adverse effects would be needed, would be extensive, and their success could not be assured. |

#### 4.2.2 Impairment

NPS *Management Policies 2001* (2000) requires an analysis of environmental consequences to determine whether or not a potential action would impair park resources or values. A fundamental purpose of the national park system, as established by the Organic Act and reaffirmed by the General Authorities Act (as amended), is to conserve park resources for future generations. NPS managers must always seek to avoid, or to minimize to the greatest degree practicable, adverse impacts to park resources and values. Although Congress has given the NPS the management discretion to allow impacts to park resources when necessary and appropriate, that discretion is limited by a statutory requirement that any impacts resulting from a potential action would not constitute impairment.

Impairment is an impact that, in the professional judgement of the responsible NPS manager, would harm the integrity of park resources or values. Any impact may constitute impairment, but impairment is more likely to result from a severe, adverse impact upon a resource whose conservation is: (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park; (2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or (3) identified as a goal in the park's general management plan or other relevant NPS planning documents.

As directed by the NPS *Management Policies 2001*, this EA includes a determination on impairment for the following impact topics: biotic communities and cultural resources.

#### 4.2.3 Cumulative Impacts

The Council on Environmental Quality (CEQ) regulations, which implement the National Environmental Policy Act of 1969 (42 USC 4321 et seq.), require assessment of cumulative impacts in the decision-making process for federal projects. Cumulative impacts are defined as “the impact on the environment from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions” (40 CFR 1508.7). Cumulative impacts are considered for all impact topics.

Past, present, and future projects related to the proposed action in Joshua Tree National Park include:

- in 1950, the deeding of the 57.839-acre Oasis of Mara parcel to Joshua Tree National Monument, a gift from the Twentynine Palms Corporation;
- in 1954, the construction of the first administration building on the eastern end of the Oasis;
- in 1963, the completion of the Mission 66 Visitor Center, an interpretive trail through the Oasis, and a low brick boundary wall, along with a flood-shunting earthen berm, around the NPS parcel;
- in 1983, the installation of underground pipes to carry water from city mains to the Oasis;
- in 1986, the construction of the Center for Arid Lands Restoration and associated nursery;
- in 1993, the construction of a 1548-square-foot Museum Collection's storage space and research library;
- in 1996, the *General Management Plan* (GMP) environmental impact statement;
- a potential construction project, in cooperation with the city of Twentynine Palms, which could move the Oasis of Mara Visitor Center to a spot north of the Oasis (outside the current park boundary), or which could establish a cultural center in this same spot, with the Oasis of Mara Visitor Center continuing to serve in its current location;

- potential expansion of the visitor center parking lot, to the east;
- potential relocation of the Center for Arid Lands Restoration, including its nursery for the propagation of native vegetation;
- potential construction of a new visitor center at the park's west entrance.

#### **4.2.4 Section 106 of the National Historic Preservation Act**

In this environmental assessment, impacts to cultural resources are described in terms of type, context, duration, and intensity, which is consistent with the regulations of the Council on Environmental Quality (CEQ) that implement the National Environmental Policy Act (NEPA). The impact analyses for cultural resources, however, are intended to also comply with Section 106 of the National Historic Preservation Act (NHPA).

In accordance with the Advisory Council on Historic Preservation's regulations implementing Section 106 of the NHPA (36 CFR Part 800, *Protection of Historic Properties*), impacts to cultural resources were evaluated by: (1) determining the area of potential effects; (2) identifying cultural resources present in the area of potential effects that were either listed in, or eligible to be listed in, the National Register of Historic Places; (3) applying the criteria of adverse effect to affected cultural resources either listed in, or eligible to be listed in, the National Register; and (4) considering ways to avoid, minimize, or mitigate adverse effects.

Under the Advisory Council's regulations, a determination of either *historic properties affected* or *no historic properties affected* must also be made for impacted National Register eligible cultural resources. A determination of historic properties affected occurs whenever an impact alters, directly or indirectly, any characteristic of a cultural resource that qualifies it for inclusion on the National Register, e.g. diminishing the integrity of the resource's location, design, setting, materials, workmanship, feeling, or association. Adverse effects also include reasonably foreseeable effects caused by the preferred alternative that might occur later in time, be farther removed in distance, or be cumulative (36 CFR Part 800.5, *Assessment of Adverse Effects*). A determination of *no historic properties affected* means there would be an effect, but the effect would not diminish in any way the characteristics of the cultural resource that qualify it for inclusion in the National Register.

CEQ regulations and NPS DO-12 call for a discussion of the appropriateness of mitigation, as well as an analysis of how effective mitigation might be in reducing the intensity of a potential impact. However, any resultant reduction in the intensity of impact due to mitigation is an estimate of the effectiveness of mitigation under NEPA only. It does not suggest that the level of effect, as defined by Section 106, is similarly reduced. An adverse effect under Section 106, even mitigated, remains an adverse effect.

A Section 106 summary is included in the analysis of cultural resources for the preferred alternative. The no action alternative is not required to undergo a Section 106 analysis.

### **4.3 Environmental Consequences of No Action**

#### **4.3.1 Biotic Communities**

Under the no action alternative, no new structures would be built in the Headquarters Area of Joshua Tree National Park. Therefore, there would be no direct impacts on any of the flora or fauna in this area of the park. The Resource Management division would continue to operate from a trailer without the possibility of laboratory facilities. Indirectly, this would result in a long-term negligible adverse impact to biotic communities throughout the park.

*Cumulative Impacts:* Past development within the Twentynine Palms Headquarters Area, and particularly in the surrounding city of Twentynine Palms, has contributed to long-term, moderate to major impacts to biotic communities by accelerating vegetation loss and wildlife habitat loss. Urban encroachment has changed the capacity of habitats

immediately surrounding the Twentynine Palms Visitor Use and Administrative District to provide necessary food, shelter, and reproduction sites. Reasonably foreseeable future actions, such as construction of a cultural center or west entrance visitor center, would not directly affect protected areas within the current park boundary, but could indirectly affect the amount of total habitat available. However, because there is no construction or development associated with this alternative, it would not contribute to the effects of other actions. Therefore, there would be no cumulative impacts under the no action alternative.

*Conclusion:* The effect of the no action alternative on biotic communities would be negligible, adverse, and long-term. Applying the standards of impairment outlined in 4.2.2, the responsible NPS manager has determined there would be no impairment of the park's biotic community resources.

#### **4.3.2 Species of Special Concern – Desert Tortoise**

There would be no new impacts to the desert tortoise resulting from the no action alternative. The area of the proposed action is identified as marginal habitat, and no new construction would be initiated.

*Cumulative Impacts:* The plans for future development of NPS structures in areas currently outside the park boundary could have long-term adverse impacts to desert tortoise habitat. The continued development of private lands around the park and associated loss and degradation of tortoise habitat is expected to continue. However, since there would be no construction under the no action alternative, this alternative would not contribute to the impacts of other actions described above.

*Conclusion:* No new effect. Impacts to the tortoise would be negligible, adverse, and long-term.

#### **4.3.3 Cultural Resources**

Under the no action alternative, no project-related ground disturbance would occur. Impact to archeological resources would be non-existent. The temporary structures that exist adjacent to the Oasis of Mara would continue to degrade, potentially presenting an image disharmonious with the view-shed of the site. This would result in a negligible, adverse, long-term impact to cultural resources.

*Cumulative Impacts:* The recent archeological survey and subsurface testing of the Twentynine Palms Visitor Use and Administrative Area revealed few artifacts in the APE (Schneider 2003). Because the no action alternative would not initiate construction there would be no contribution to the cumulative effect upon cultural resources. Reasonably foreseeable future construction of a cooperative cultural center on the north end of the Oasis might extend the awareness of the site. Awareness would result in a heightened appreciation of the resource but could conversely lead to occasional looting of the site. The continued dilapidation of temporary structures is predictable, and could produce a minor, adverse, long-term impact to the view-shed of the site.

*Conclusion:* Impact of the no action alternative to cultural resources would be negligible, adverse, and long-term. The no action alternative would result in no direct impacts, indirect impacts, or cumulative impacts to identified cultural resources.

There would be no impairment to park resources necessary to fulfill specific purposes identified in the park's enabling legislation or key to the cultural integrity of the park.

#### **4.3.4 Museum Collections**

Under the no action alternative, no additional museum storage space would be built. Additional unaccessioned and accessioned items would not be provided space beyond the existing 1548-square-foot Museum Collections structure. The resulting impact to Museum Collections' resources would be minor, adverse, and long-term.

*Cumulative Impact:* The *General Management Plan* of 1996 specifically outlines the



construction of additional Museum Collections' storage space as a park operations goal. The no action alternative would indefinitely postpone this goal of the park's GMP. More than 4000 archival and archeological items from Joshua Tree National Park are located at the NPS Western Archeological Conservation Center, and a potentially significant number of the park's biological, paleontological, archeological, and geological collections are housed in local repositories, such as those of the University of California, Riverside, and the University of Nevada at Las Vegas. These external collections could be returned to the park if enough space existed to properly curate them. In addition to active cultural and natural resources programs, the park has recently initiated a paleontology program, the foreseeable effect of which would be added storage needs. The no action alternative would produce a cumulative impact to Museum Collections resources that would be minor to moderate, adverse, and long-term.

*Conclusion:* The result of the no action alternative to Museum Collections resources would be a minor, adverse, and long-term impact, potentially becoming a minor to moderate, adverse, long-term impact with the accumulation of more Museum Collections artifacts.

#### **4.3.5 Visitor Experience**

Under the no action alternative, visitors on the Oasis of Mara Nature Trail would not be subjected to any construction noise. The parking situation would remain static in the visitor center parking lot, with potential crowding impacts in peak periods of coincidental high visitation and high park employee use. The impact to the visitor experience would be negligible, adverse, and long-term.

*Cumulative Impact:* Considering the foreseeable construction of an additional visitor center at the west entrance of Joshua Tree National Park and a cultural center north of the Oasis in Twentynine Palms, the impact of future NPS plans in the area could be beneficial to visitor experience. However, as the no action alternative proposes no change to the present environment, there would be no cumulative effects from this alternative on visitor experience.

*Conclusion:* The impact of the no action alternative to park visitor experience would be negligible, adverse, and long term.

#### **4.3.6 Park Operations**

Safety conditions and ability to conduct business in an appropriate and effective workplace would continue to degrade for park employees under the no action alternative. Power outages would likely increase. Energy efficiency would experience a predictable decrease. The impact of the no action alternative to park operations would be increasingly adverse over time.

*Cumulative Impacts:* The *General Management Plan* of 1996 specifically outlines the construction of an upgraded administrative complex as a park operations goal. The no action alternative would indefinitely postpone this goal of the park's GMP. Reasonably foreseeable negative impacts to employee safety and comfort would result.

*Conclusion:* The overall impact of the no action alternative to park operations would be moderate, adverse, and long-term.

### **4.4 Environmental Consequences of the Proposed Action**

#### **4.4.1 Biotic Communities**

The construction associated with the headquarters' upgrade proposal would result in less than 0.5 acres of new disturbance to biotic communities. Disturbance would be to the east of current structures, away from the Oasis of Mara. At the conclusion of the project, maintenance roads near the Oasis of Mara would be rehabilitated. The total area of rehabilitation is less than 0.5 acres.

The estimated number of plants affected is 212. None of these plants would be salvageable due to the species' inability to survive transplant. The plants disturbed by species would occur as follows: 2 Palo Verde (*Cercidium floridum*), 59 creosote (*Larrea tridentata*), 26 assorted cacti (*Opuntia spp.*), and 135 saltbush and associated shrubs (*Atriplex spp.*).

Loss of wildlife would be proportional to the amount of habitat lost. The area of proposed construction has been previously affected through years of close association with vehicles, structures, and attendant human presence. Any wildlife in the area have become habituated to human activity and vehicle noise. During construction some small animals, such as rodents, may be killed or forced to relocate to areas outside the construction zone. Particularly loud or intensive construction activities could displace sensitive migratory or resident avian species in the nearby Oasis of Mara. Overall populations of affected species might be slightly and temporarily lowered but no permanent adverse effects on wildlife would be anticipated.

If the preferred alternative were to be implemented, there would be negligible, adverse, and short-term impacts to biotic communities.

*Cumulative Impacts:* The proposed project would occur in the desert environment of the Morongo Basin urban area. The development of private lands abutting this parcel of NPS property and the associated loss and degradation of natural habitats is expected to continue. However, impacts to a currently impacted zone would be a negligible effect in the context of Joshua Tree National Park and its encompassing Mojave Desert habitat when the geographical extent of the biotic communities is considered. Consequently, the cumulative effect of the proposed action would be negligible, adverse, and long-term.

*Conclusion:* If the preferred alternative were to be implemented, there would be negligible, adverse, short-term and long-term impacts to biotic communities. Some habitat would be lost in the short term as a result of construction, but with the mitigation of vegetative rehabilitation, the same amount of habitat near the oasis would be reclaimed. Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park; (2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or (3) identified as a goal in the park's general management plan or other relevant NPS planning documents, no impairment of resources would occur.

#### **4.4.2 Species of Special Concern – Desert Tortoise**

Construction in the Headquarters area could potentially affect tortoises. Surveys completed in December 2002 in the construction area found two burrows, neither of which showed recent activity. A total of less than one-half acre of potential tortoise habitat would be impacted by the proposed action. Tortoises both on the surface and in their burrows could be killed or injured by construction activities. To mitigate these impacts, tortoise surveys would be completed prior to each phase of the construction, e.g. prior to the construction of each building and each parking lot. Any surveys or handling of tortoises would be done by a qualified biologist in accordance with procedures outlined by the USFWS.

Additional indirect adverse impacts could occur from harassment of tortoises by construction personnel or by the attraction of ravens to the area if trash is not disposed of properly. To mitigate these impacts, each project employee would be educated prior to the start of construction on the occurrence of the desert tortoise in the area, the threatened status of the species, and appropriate behavior in areas identified as tortoise habitat. A litter control program would be implemented during construction to provide coyote- and raven-proof receptacles. Complete desert tortoise mitigation measures are presented in section 2.2.3.3. Prior to any of the proposed project being implemented, consultation with the USFWS would be completed to minimize future tortoise impacts to the greatest extent possible.

*Cumulative Impacts:* This project would occur in desert tortoise habitat east and northeast, respectively, of the Los Angeles and Palm Springs metropolitan areas. Additionally, the project would occur on a literal island of potential tortoise habitat in an increasingly urbanized area of the Morongo Basin. The development of these private lands and the associated loss and degradation of tortoise habitat is expected to continue. However, the impacts to the small (potentially non-existent) tortoise population in the Oasis area would have a negligible effect on the Mojave Desert population of tortoises, when total tortoise population numbers, comparative quality of habitat, and geographical extent are considered.

*Conclusion:* Less than 0.5 acres of tortoise habitat would be lost adjacent to the current headquarters complex. Less than 0.5 acres of tortoise habitat would be restored upon completion of the project. Mitigation measures would be strictly enforced to protect tortoises, if tortoises are extant. There would be a negligible, adverse, short- and long-term impact to desert tortoises from the proposed action.

#### **4.4.3 Cultural Resources**

As discussed in Chapter 3 there have been numerous cultural resource studies completed at the Oasis over the years. Of note are studies by Tagg (1992), Svinarich (1998) and Schneider (2003). Tagg (1982) identified prehistoric and historic features but none of them are in the APE of the project. During his survey and testing project for the park septic system, which is not in the project area, Svinarich (1998) found materials on the surface but test excavation revealed minimal cultural materials below the surface. Intensive surface surveys of the APE have revealed scanty evidence of human use (Warren and Schneider 1997; Schneider 2003). What few artifacts were found were most likely not in their original context due to sheet wash and intensive modern disturbances. In December 2002 and January 2003 all surface materials in the developed eastern end of the Oasis were mapped and collected and are curated at the JOTR collections' facility under Accession number 787. As a result of her fieldwork Schneider (2003) draws the site boundaries for CA-SBR-2052/H in a northeast/southwest direction cutting through the project area. She, however, located only two subsurface features during her fieldwork that she considered contributing elements to the National Register site. Neither of these features are in the APE and therefore would not be impacted by the project. Other than two possible hearths, that contained no obvious cultural remains (Keswick 1998, 2000a; Juliana 1998), there have been no surface or subsurface features found in the APE for the project.

All subsurface disturbance for the construction, construction-related, or revegetation work would be monitored by an archeologist meeting the Secretary of Interiors Standards. If archeological features are discovered during ground disturbing activities construction work in that area would cease and the feature(s) would be removed using standard archeological methods. In the event that human remains or funerary objects were to be inadvertently discovered as a result of the project procedures in the Discovery Plan (Appendix 7.1) would be followed.

*Cumulative Impacts:* There is a long history of construction projects that have jeopardized the integrity of eastern end the NPS Oasis' site. Several of these projects have taken place in the APE causing major disturbance resulting in a significant lack of integrity. The current project would contribute to the continued degradation of the integrity of this portion of the site; however, most of the new development would be in the footprint of the previously disturbed areas. Archeological survey, mapping, collecting, and testing have demonstrated that there are no elements that contribute to National Register significance within the project APE (Tagg 1983, Schneider 2003). Construction of offices would improve the view-shed from the site by eliminating the existing unsightly temporary structures.

*Conclusion:* There would be a long-term change in a small area of CA-SBR-2052/H as a result of this action being selected. The determination of "no historic properties affected"

is appropriate because the sparse surface artifacts have been collected, there were very few subsurface artifacts, and there were no cultural features located in the APE during either the 1983 (Tagg 1983) or the 2002-2003 projects (Schneider 2003). The currently proposed construction project would not result in the loss of any important archeological information. After a considerable amount of archeological work it has been effectively demonstrated that there are no known elements that contribute to National Register eligibility located within the APE. An archeological monitor would be on site during ground disturbing activities.

#### **4.4.4 Museum Collections**

Museum Collections storage space would be increased from 1548-square-feet to 3548-square-feet, providing adequate space for museum supplies, preparatory work, and the proper storage of new, unaccessioned, and uncataloged items. These improvements would result in a minor to moderate, beneficial, long-term effect on Museum Collections and associated resources.

*Cumulative impacts:* The completion of a Museum Collections storage area and research library in 1994 met a critical need of Joshua Tree National Park for increased archival space. The General Management Plan of 1996 recognized a growing and continuing need for Museum Collections space by including an annex to the 1993 building in its plan for an integrated headquarters' complex. More than 4000 archival and archeological items from Joshua Tree National Park are located at WACC, and a potentially significant number of the park's biological, paleontological, archeological, and geological collections are housed in local repositories, such as those of the University of California, Riverside, and the University of Nevada at Las Vegas. These external collections could be returned to the park if enough space existed to properly curate them. In addition to active cultural and natural resources programs, the park has recently initiated a paleontology program, which will generate added storage needs. In light of a predictable increase in Museum Collections storage needs, the cumulative impact of the proposed action would be moderate, beneficial, and long-term.

*Conclusion:* Overall, there would be a minor to moderate, beneficial, long-term impact to Museum Collections and associated resources through the creation of additional storage space.

#### **4.4.5 Visitor Experience**

Direct impacts to visitor experience on the Oasis of Mara Nature Trail would result from construction noise and the generation of fugitive dust and exhaust from construction activities. Opportunities for solitude, visitor enjoyment of the landscape, and wildlife viewing could be adversely affected during the period of the proposed project. The mitigation measure of providing ongoing interpretation throughout the duration of the project would partially offset the potential adverse impacts to visitor experience. Depending upon the effectiveness of the mitigation, the direct impact of the proposed action to visitor experience would be minor to moderate, adverse and short-term.

The indirect effect of construction would be increased short-term parking stresses. The staging area for construction activities would be an employee overflow parking area. Employees, if forced elsewhere, could displace visitor parking in the Oasis Visitor Center parking lot. However, the long-term effect of providing adequate parking for park employees would be the relief of parking stresses in the adjacent visitor center parking lot.

*Cumulative impacts:* The reasonably foreseeable NPS action to create a cooperative cultural center on the north side of the Oasis, on land currently outside the park boundary, could increase interest in and visitation to the Oasis Visitor Center. This increased interest could potentially create traffic stresses beyond those the park currently experiences in the visitor center parking lot. An indirect effect of providing adequate parking for NPS employees could be an easing of future traffic stresses.

*Conclusion:* The short-term effect to visitor experience of the proposed action would be adverse and moderate in intensity. The long-term effect of creating a more effective and expansive parking situation would be beneficial and minor in intensity.

#### **4.4.6 Park Operations**

Permanent, accessible, and sustainable structures would be built in a planned complex. Renewable energy and energy efficiency would be integral aspects of building design, lowering long-term operational costs. Upgraded facilities for three of the park's five divisions, in addition to a conference room for increased communication between divisions, could result in more efficient park operations.

*Cumulative impacts:* The proposed action is tiered from the *General Management Plan* environmental impact statement of 1996, which identified an integrated headquarters complex as an operational goal. Operational inconveniences could arise during the construction period as temporary buildings must be removed before new structures can be built. Short-term cumulative impacts could therefore be adverse. Long-term sustainability and electrical power generation would be a beneficial, minor to moderate intensity impact.

*Conclusion:* Overall, although the proposed action could produce short-term operational inconveniences that would translate to adverse, negligible to minor impact, there would be a long-term, moderate, and beneficial impact to park operations resulting from the proposed project.

---

## 5 Bibliography

- Advisory Council on Historic Preservation Regulations. 1999. 36CFR800.
- Anderson, Keith M. 1973. Trip Report to Joshua Tree national Monument. On file Western Archeological and Conservation Center, Tucson.
- Bagley, Helen. 1978. *Sand in My Shoe*. Homestead Press. Twentynine Palms, California.
- Baker, J. 1970. *Biology of the Oasis of Mara, Joshua Tree National Monument*. Research Report to the National Park Service, U.S. Department of the Interior.
- Bean, Lowell John and Sylvia Brakke Vane. 2002. *The Native American Ethnography and Ethnohistory of Joshua Tree National Park, An Overview*. Menlo Park, Cultural Systems Research, Inc. for the National Park Service: in press.
- Beckwith, Ronald J. 1998. Archeological Clearance Survey Form: Construct Building Foundation and Install Modular Building at Headquarters Area, Joshua Tree National Park, California. Project NO.: JOTR 1993 A; Clearance No.: 004-98-JOTR.
- Berry, K. and Nicholson, L.L.; 1984. The distribution and density of desert tortoise populations in California in the 1970's, from *The Status of the Desert Tortoise*; report to U.S. Fish and Wildlife Service from the Desert Tortoise Council on Order No. 11310-0083-8I, March 1984.
- Boarman, W.I.; 2002. Threats to Desert Tortoise Populations: A Critical Review of the Literature. Prepared for West Mojave Planning Team, Bureau of Land Management. US Geological Survey, Western Ecological Research Center.
- Cameron, H.F. 1949. Survey of *A Portion of the South Half of the NE Quarter and of the North half of the SE quarter of Section 33, T 1N, R 9E, SBB&M*, on file Joshua Tree National Park archives.
- Campbell, Elizabeth W. Crozer. 1931. "An Archeological Survey of the Twenty Nine Palms Region." Los Angeles: *Southwest Museum Papers*, Number 7.
- Campbell, Elizabeth W. Crozer and William H. Campbell. 1935. "The Pinto Basin Site." Los Angeles: *Southwest Museum Papers*, Number 9.
- Campbell, Elizabeth W. Crozer. 1961. *The Desert Was Home*. Westlore Press. Los Angeles, California.
- Carey and Co. Inc. 2001. *Joshua Tree National Park Visitor's Center, Twentynine Palms, California, Determination of Eligibility*.
- Certificate of Title, Order #211226. May 8, 1950. County of San Bernardino, California.
- Cook, M.L. 1909. Plat Map: *Twentynine Palms Indian Reservation in the SW ¼ of Section 33, T1N, R 9E, SBM*, on file Joshua Tree National Park archives.
- Council on Environmental Quality. 1981. "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations" [40 CFR 1500-1508], *Federal Register* Vol. 46, No. 55, 18026-18038.
- De Lisle, Harold F. 2001. *Amphibians and Reptiles of Joshua Tree National Park, Annotated Checklist*. Produced for Joshua Tree National Park.
- Department of Interior. 1989. *Guidelines for NEPA Compliance*, DOI Manual 516: Appendix on Categorical Exclusions and Environmental Quality.
- Ervin, Richard. 1985. Archeological Clearance Survey Form: Construction of a Greenhouse, Oasis of Mara, Joshua Tree National Monument, California. Project No.: JOTR 85B; Clearance No.: 042-85-JOTR. On file at Joshua Tree National Park, Cultural

## Resources Office

- Federal Register. V. 43, No. 45, Tuesday, March 7, 1978.
- Fish and Wildlife Service. 1990. Endangered and threatened wildlife and plants: determination of threatened status for the Mojave population of the desert tortoise. *Federal Register* 55(63): 12178-12191.
- Fish and Wildlife Service. 1994a. *Desert tortoise (Mojave population) Recovery Plan*. U.S. Fish and Wildlife Service, Portland, Oregon.
- Fish and Wildlife Service. 1994b. Request for candidate, proposed, threatened or endangered (1-6-94-sp-144) for the General Management Plan and Environmental Impact Statement for Joshua Tree National Park, Riverside County, CA. April 29th.
- Fowler, Don D. 1986. "History of Research." In *Handbook of North American Indians*, Volume 11, Great Basin. Edited by Warren L. D'Azevedo, series edited by William C. Sturtevant. Washington, District of Columbia: Smithsonian Institution.
- Greene, Linda; 1983. "Historic Resource Study, A History of Land Use in Joshua Tree National Monument." National Park Service.
- Holland Jr., R. Ross. 1971. National Register of Historic Places Nomination Form.
- Jefferson, George. 1973. "Archeological Clearance for a Visitor Center Addition, Joshua Tree National Monument," Clearance Number 041-JOTR. On file Joshua Tree National Park, Cultural Resources Office.
- Jennings, Jesse D. 1964. "The Desert West." In *Prehistoric Man in the New World*. Edited by Jesse D. Jennings and Edward Norbeck, Chicago: University of Chicago Press, 1964.
- Jones, Trinkle. 1987. "Archeological Clearance Survey Form: Install Gas Service, 29 Palms Visitor Center and Administrative Buildings, Joshua Tree National Monument, Twentynine Palms, California." Project No.: JOTR 86B; Clearance No.: 103-87-JOTR. On file at Joshua Tree National Park, Cultural Resources Office.
- Juliana, Cammile. 1998. Monitoring notes for installation of the resources modular building. On file at Joshua Tree National Park, Cultural Resources Office.
- Karl, Alice B. 1988. "Investigations of the Status of the Desert Tortoise, *Gopherus Agassizii*, in Joshua Tree National Monument." Prepared on contract with the National Park Service at the University of Nevada, Las Vegas.
- Kearins, P. and J. Rossen, W. Rottman, L. Popelish, P. Donelan, and K. Dighar. 1979. Archeological Site Record, CA-SBR-2052/H. On file at Joshua Tree National Park, Cultural Resources Office.
- Keswick, Jan. 1998. "Archeological Clearance Survey Form: Remove Resources Building and Chief Ranger's Office; Install New Resources Building, Joshua Tree National Park, California." Project No.: JOTR 1998 F; Clearance No.: 007-98-JOTR. On file Joshua Tree National Park, Cultural Resources Office.
- Keswick, Jan. 1999a. "Archeological Clearance Survey Form: Landscape the West Side of the Resources Management Building, Extend Shade Structure for the Nursery, and Construct a Fence, Joshua Tree National Park, California." Clearance No.: 007-99-JOTR. On file Joshua Tree National Park, Cultural Resources Office.
- Keswick, Jan. 1999b. "Archeological Clearance Survey Form: Install Buried Hardware Cloth Along the New Nursery Fence Line, Joshua Tree National Park, California." Clearance No.: 001-00-JOTR. On file Joshua Tree National Park, Cultural Resources Office.
- Keswick, Jan. 2000a. "Archeological Clearance Survey Form: Construct CNG Fill Stations South of Resources Management Building, Joshua Tree National Park, California."

- Clearance No.: 010-00-JOTR. On file Joshua Tree National Park, Cultural Resources Office.
- Keswick, Jan. 2000b. "Archeological Clearance Survey Form: Place Lost and Found Storage Shed Next to Ranger Activities Building at Headquarters, Joshua Tree National Park, California." Project No.: JOTR 2000 N; Clearance No.: 003-2001-JOTR. On file Joshua Tree National Park, Cultural Resources Office.
- Keswick, Jan. 2000c. "Assessment of Actions Having an Effect on Cultural Resources: Retrofit Park Headquarters for Sustainability." Tracking No.: PGSO0076. On file Joshua Tree National Park, Cultural Resources Office.
- Keswick, Jan. 2001a. "Archeological Clearance Survey Form: Install Protection Alarm Extension, Joshua Tree National Park, California." Clearance No.: 008-2001-JOTR. On file Joshua Tree National Park, Cultural Resources Office.
- Keswick, Jan. 2001b. "Archeological Clearance Survey Form: Office Landscaping at Twentynine Palms Headquarters, Joshua Tree National Park, California." Clearance No.: 012-2001-JOTR. On file Joshua Tree National Park, Cultural Resources Office.
- Keswick, Jan. 2001c. "Archeological Clearance Survey Form: Replacement of Nursery Phone Lines at Twentynine Palms Headquarters, Joshua Tree National Park, California." Clearance No.: 013-2001-JOTR. On file Joshua Tree National Park, Cultural Resources Office.
- Keswick, Jan. 2002a. "Assessment of Actions Having an Effect on Cultural Resources: Implement Grid Buy-Down System." Tracking No.: PGSO0220. On file Joshua Tree National Park, Cultural Resources Office.
- Keswick, Jan. 2002b. "Archeological Clearance Survey Form: Establish Joshua Tree National Park Association Office, Joshua Tree National Park, California." Clearance No.: 004-2002-JOTR. On file Joshua Tree National Park, Cultural Resources Office.
- Kidwell, Art. 1987. *In the Shadow of the Palms*. Desert Moon Press. Twentynine Palms, California.
- Leonard, JoAnne C. and Michael K. Lerch. 1980. "Cultural Resources study of the Shuffler Property at the Oasis of Mara," on file at the Archaeological Information Center for San Bernardino County (NADB 1061007).
- Lerch, Michael K. nd. "Grayce file," on file at the Archeological Information Center, San Bernardino County.
- Luellen, Mark and Shaun Provecher. 2002. "Oasis of Mara Historic District, Joshua Tree National Park, Cultural Landscape Inventory: Level 1." On file Joshua Tree National Park, Cultural Resources Office.
- Mayo, Jill and Joseph Svinarich, and Winters. 1998. Supplemental Site Record for CA-SBR-2052/H Locus B. On file at Joshua Tree National Park, Cultural Resources Office.
- Metropolitan Water District. 1937. "Joshua Tree National Monument Base Map," on file at JOTR collections' facility, Accession No.: 651, Catalog No.: 19,430.
- Miller, R. 1978. Mara: *The Desert Oasis of Twentynine Palms*. Westerner's Brand Book XV, Joshua Tree National Park Library.
- National Park Service, Director's Order 2. 1982 (amended 1986). *Planning Process Guidelines*. U.S. Department of the Interior.
- National Park Service, Director's Order 12. 2001. *Conservation Planning, Environmental Impact Analysis, and Decision Making*. U.S. Department of the Interior.
- National Park Service, Director's Order 28. 1994. *Cultural Resource Management Guidelines*. U.S. Department of the Interior.



- National Park Service, Director's Order 77. 1991. *National Park Service Natural Resources Management Guidelines*. U.S. Department of the Interior.
- National Park Service. 1984. *Oasis of Mara Action Plan, An Addendum to the Natural Resources Management Plan for Joshua Tree National Monument*. U.S. Department of the Interior.
- National Park Service. 1996a. *General Management Plan and Development Concept Plan, Joshua Tree National Park*. U.S. Department of the Interior.
- National Park Service. 1996b. *Headquarters Landscape and Oasis of Mara Action Plan for Joshua Tree National Park*. U.S. Department of the Interior.
- National Park Service. 2000. *Management Policies 2001: Management of the National Park Service*. U.S. Department of the Interior.
- National Park Service. 2001. *Headquarters Comprehensive Plan for Joshua Tree National Park*. U.S. Department of the Interior.
- Pepito, Rosie. 1995a. "Assessment of Actions having an Effect on Cultural Resources: Emergency Replacement of Water Line in the Oasis of Mara NPS Administrative Area." Tracking No.: 1643 WR. On file at Joshua Tree National Park, Cultural Resources Office.
- Pepito, Rosie. 1995b. "Assessment of Actions having an Effect on Cultural Resources: Revegetate Non-historic Road in the Oasis of Mara." Tracking No.: 1649 WR. On file at Joshua Tree National Park, Cultural Resources Office.
- Pepito, Rosie. 1995c. "Assessment of Actions having an Effect on Cultural Resources: Provide A Windbreak for the Nursery and Landscaping that will Obscure the Nursery from View by people Using the Oasis of Mara Interpretive Trail." Tracking No.: 1656 WR. On file at Joshua Tree National Park, Cultural Resources Office.
- Pepito, Rosie. 1995d. "Assessment of Actions having an Effect on Cultural Resources: Trench to Install a Water Meter at the Oasis of Mara Administrative Area." Tracking No.: 1682 WR. On file at Joshua Tree National Park, Cultural Resources Office.
- Pepito, Rosie. 1995e. "Assessment of Actions having an Effect on Cultural Resources: Trench to Connect Local Area Network at the Oasis of Mara Administrative Area." Tracking No.: 1683 WR. On file at Joshua Tree National Park, Cultural Resources Office.
- Rouse, Homer L. 1974. Archeological Clearance Report JOTR-093. Letter report on file, Joshua Tree National Park, Cultural Resources Office.
- Sabala, Jan. 2002. "Archeological Clearance Survey Form: Conduct Geotechnical Investigations for the construction of the New Headquarters Offices, Joshua Tree National Park, California." Clearance No.: 001-2003-JOTR. On file at Joshua Tree National Park, Cultural Resources Office.
- Schroth, Adella B., editor. 1992. "Cremations and Associated Artifacts from the Campbell Collection, Joshua Tree National Monument, California." Prepared on contract with the Western Regional Office, National Park Service, U.S. Department of the Interior, San Francisco, California. Prepared by the Departments of Anthropology at the University of California at Riverside and at the University of Nevada at Las Vegas.
- Schneider, Joan S. 1992. Personal communication of an archeologist on National Park Service contract from the Department of Anthropology, University of California at Riverside about possible sacred sites in Joshua Tree National Monument, California, with Lawrence F. Van Horn, cultural anthropologist, Denver Service Center, National Park Service, U.S. Department of the Interior.
- Schneider, Joan. 1996. Report of Survey and Excavation in Association with Installation of Hiprotect at the Oasis of Mara. Project No.: JOTR 1996 B, on file at Joshua Tree National Park, Cultural Resources Office.

- Schneider, Joan. 2003. Preliminary Report, "Investigations at the Oasis of Mara (CA-SBR-2052/H) Results of the Fieldwork: Reassessment of National Register of Historic Places Determination of Eligibility and Adjustment of National Register Boundaries, at the National Park Service-Owned Portion of the Oasis of Mara Twenty-Nine Palms, San Bernardino County, California." On file at Joshua Tree National Park, Cultural Resources Office.
- Schneider, Joan S. and Claude N. Warren. 1992. "Preliminary Results of a Systematic Random Sample Survey of Prehistoric Cultural Resources at Joshua Tree National Monument, California." Paper presented at the 1992 Kelso, California, Conference on Mojave Desert Prehistory, November 14. Paper in possession of the authors, Departments of Anthropology, respectively, at the University of California at Riverside and the University of Nevada at Las Vegas.
- Svinarich, Joseph. 1998a. Test Excavations at CA-RIV-2054 and CA-SBR-2052 Joshua Tree National Park, Project No.: JOTR 1998 A. On file at Joshua Tree National Park, Cultural Resources Office.
- Svinarich, Joseph. 1998b. *Assessment of Actions Having an Effect on Cultural Resources: Archaeological Compliance documents for Installation of Septic System at Cottonwood Visitor Center, JOTR, and rehabilitation of septic systems at Headquarters (Locus B) and at the Cottonwood Visitor Center (1998)*. Compliance No. 003-98-JOTR. On file at Joshua Tree National Park, Cultural Resources Office.
- Tagg, Martin D. 1983. *Excavations at the Oasis of Mara: Archeological Investigations at Joshua Tree National Monument*. Western Archeological and Conservation Center, National Park Service, U.S. Department of the Interior.
- Teague, George A. 1983. *Research Design for Assessment of Archeological Resources at the Oasis of Mara, Joshua Tree National Monument, California*. Western Archeological and Conservation Center, National Park Service, U.S. Department of the Interior.
- Teague, George. 1992a. Trip Report, on file Joshua Tree National Park, Cultural Resources Office. On file at Joshua Tree National Park, Cultural Resources Office.
- Teague, George. 1992b. *Archeological Clearance Survey Form: Widen Sections of Trail for Handicapped Access and Interpretation, Oasis of Mara, Joshua Tree National Monument, California*, Project No.: JOTR 1993 A; Clearance No.: 118-92-JOTR
- Teague, George. 1997. Trip Report, on file Joshua Tree National Park, Cultural Resources Office. On file at Joshua Tree National Park, Cultural Resources Office.
- Trafzer, Clifford E., Luke Madrigal, and Anthony Madrigal. 1997. *Chemehuevi People of the Coachella Valley*. Sovereign Nation of the Twenty-nine Palms Band of Mission Indians, Coachella, California: Chemehuevi Press.
- Warren, Claude N. and Joan S. Schneider. 1992. "Interim Report, Phase One of an Archeological Inventory of Joshua Tree National Monument, California." Prepared on contract for the National Park Service, respectively, at the University of Nevada at Las Vegas and the University of California at Riverside.
- Warren, Claude N. and Joan S. Schneider. 1993. "Interim Report, Phase Two of an Archeological Inventory of Joshua Tree National Monument, California." Prepared on contract for the National Park Service, respectively, at the University of Nevada at Las Vegas and the University of California at Riverside.
- Warren, Claude N. and Joan S. Schneider. 1997. "Archaeological Clearance Study for Joshua Tree National Park Visitor Center." Project No.: 1997 C. On file at Joshua Tree National Park, Cultural Resources Office.
- Warren, Claude N. and Joan S. Schneider. 2000. "Phase II, An Archaeological Inventory of Joshua Tree National Park: Description and Analyses of the Results of a Stratified

Random Sample Inventory Conducted 1991-1992.” Cooperative Agreement #CA8029-1-0003 between the United States Department of Interior, National Park Service and University of Nevada, Las Vegas.

Wilbur Smith Associates. 2002. *Headquarters Traffic Study for Joshua Tree National Park, Draft Report*. Presented to the National Park Service, U.S. Department of the Interior.

---

## **6 Preparers and Consultants**

### **6.1 Preparers**

National Park Service, Joshua Tree National Park

Environmental Protection Specialist Mike Cipra

Cultural Resource Manager Jan Sabala

Geographical Information Systems Specialist Gary Lindberg

Visual Information Specialist Sandra Kaye

### **6.2 Consultants**

National Park Service, Joshua Tree National Park

Superintendent Ernie Quintana

Acting Superintendent Curt Sauer

Chief of Facilities Management Harry Carpenter

Chief of Interpretation Joe Zarki

Vegetation Specialist Jane Rodgers

Museum Collections Specialist Melanie Spoo

Bio-Science Technician Jane Ashdown

---

## 7 Appendices

### 7.1 Discovery Plan

#### *If Native American Human Remains are Found during Construction Work at the Oasis of Mara, Joshua Tree National Park, California*

Buried human remains, presumably Native American, could be inadvertently, not intentionally, encountered in the process of the proposed construction at Oasis of Mara, Joshua Tree National Park, Twentynine Palms, California. Should such human remains be encountered during construction at the NPS Oasis property, the following steps will be followed, which could invoke the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) and would be covered under section 3(d) of NAGPRA.

1. Workers inadvertently discovering human remains, or associated funerary objects, will immediately suspend excavations in the immediate vicinity of the discovery. The Project Director and Park Cultural Resources Manager will be promptly notified, and will, in turn, promptly notify the Park Superintendent.
2. If buried human remains and/or associated funerary objects are inadvertently discovered during construction all work will immediately be suspended in the vicinity of the discovery. The Park staff person in charge or contractor will immediately notify his or her designated representative, such as the Park Cultural Resources Division Chief, Resources Chief, Maintenance Chief, or project engineer. In the latter case, this person will, in turn, immediately notify the designated Park representative who, in turn, will promptly notify the Park Superintendent.
3. The Park Superintendent is designated to engage in government-to-government Native American consultations as part of the Park's ongoing relations with its Native American neighbors. If inadvertent discovery of human remains or associated funerary objects occur, regulations in effect in NAGPRA will be strictly followed. The Native American Tribal governments and groups in contact with the Park, who are known from past experience to have cultural interests in the Park, will be notified within twenty-four (24) hours of the discovery.
4. Human remains will be left in place in the ground for forty-eight (48) hours following the twenty-four (24) hour period, above, for initial Native American notification. By way of telephone, FAX, or electronic mail (email) Native American consultation will take place during or shortly after this forty-eight (48) hour period, and the human remains and/or funerary objects will be removed from the ground to an area of safety in the Park. Because of limited budgets and chance of vandalism, the National Park Service would respectfully requests that those Native American representatives who wish to do so, make arrangements through the Park Superintendent to visit the site within this forty-eight (48) hour period and to be present at the agreed-upon time for the removal of the human remains or funerary objects. Limited travel funds will be sought to accommodate this request within the time frame specified. If no additional ground-disturbing activities will take place at the location, the remains may be left in place and protected during the remainder of the construction project or any future development. Protection will be afforded by fencing, covering, padding, or other means, while a Native American decision is made regarding final disposition of the remains or funerary objects. If ground-disturbing activities are to continue, the remains will be removed and the location monitored during any subsequent ground-disturbing activities in the immediate vicinity of the discovery.
5. Exposed remains will be brushed clean to confirm integrity, and minimal analysis of the remains will be accomplished, in place. Any artifacts found in association with the discovered human remains, such as funerary objects, sacred objects, and objects of

cultural patrimony, also will be left in place until removal to an area of safety, subject to any further procedural considerations from Native Americans found to be culturally affiliated. Any such inadvertently discovered Native American human remains, or associated funerary objects, will not be removed from Joshua tree National Park. All analyses will be carried out in the Park. No destructive analysis of the remains will be undertaken, except at the direction of the designated Native American representative(s). Nothing associated with the remains or funerary objects will be placed on public display. Any photographs taken will be for scientific identification only.

6. Cultural affiliation will be determined to the best of the National Park Service's ability. All Native American groups expressing interest will be consulted, in detail, about the human remains or funerary objects. A consensus agreement will be sought among these Native American tribes with interests in Joshua Tree National Park to determine the final disposition of the human remains or funerary objects in question. Depending on the consensus agreement and upon a culturally related tribal request or requests to do so, re-interment or repatriation of any inadvertently discovered human remains or funerary objects will be carried out within the ninety (90) days following completion of this NAGPRA consultation/mitigation process. Any disputes regarding cultural affiliation or discovered Native American human remains or associated funerary objects shall be resolved in strict accord with the NAGPRA regulations.

7. During construction at the Oasis of Mara, the contractual agreement will permit work to continue in areas not in the immediate vicinity of any inadvertently discovered human remains or associated funerary objects. Nothing in the contractual agreement will be construed to interfere with any Native American instructions, based on NAGPRA consultations, for re-interment elsewhere with appropriate ceremonies.

## 7.2 USFWS Correspondence



IN REPLY REFER TO:  
L7815 (JOTR-M)

### United States Department of the Interior

#### NATIONAL PARK SERVICE

Joshua Tree National Park  
74485 National Park Drive  
Twentynine Palms, California 92277-3597

#### Memorandum

Field Supervisor, U.S. Fish and Wildlife Service, Ecological Services,  
2730 Loker Avenue West, Carlsbad CA 92069

Natural Resource Specialist, Joshua Tree National Park

Reference: Joshua Tree National Park, Headquarters Upgrade and Rehabilitation

Subject: List of Threatened or Endangered Species

The National Park Service (NPS) is initiating a planning project for improvements to the Twentynine Palms Headquarters Area of Joshua Tree National Park. The area of the proposed project is the eastern, developed portion of the Twentynine Palms 58-acre NPS parcel (map attached). No improvements are planned north, south, or west of current structures. The Twentynine Palms 58-acre NPS parcel is located in the northern half of Section 33, SE ¼, Township 1 N, Range 9 E, south and west of the intersection of National Park Drive and Utah Trail in Twentynine Palms. As the Natural Resource Specialist assigned to this project, I am requesting a current list of federally listed or any other special status species that might occur in the locality mentioned above, and designated critical habitat, if any, for these species.

This letter will serve as a record that the NPS is initiating informal consultation with your agency pursuant to the requirements of the Endangered Species Act and National Park Service Management Policies.

We appreciate your response to this inquiry. Please send any responses to:

Jane Rodgers (Headquarters Upgrade)  
Joshua Tree National Park  
74485 National Park Drive  
Twentynine Palms CA 92277  
(760) 367-5564

Jane Rodgers

Attachment



## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Ecological Services  
Carlsbad Fish and Wildlife Office  
6010 Hidden Valley Road  
Carlsbad, California 92009





In Reply Refer To: FWS-ERIV-3476.1

APR 25 2003

### MEMORANDUM

To: Superintendent, National Park Service, Twentynine Palms, California

From:  Assistant Field Supervisor, Carlsbad Fish and Wildlife Office 

Subject: Request to for a Species List on the Proposed Twentynine Palms Headquarters Upgrade, Joshua Tree National Monument, Riverside, California

This memorandum acknowledges the U.S. Fish and Wildlife Service's (Service) April 23, 2003, receipt via facsimile of your request to receive a species list for the above-mentioned project. The desert tortoise (*Gopherus agassizii*) and its designated critical habitat should be considered in the planning for this project. We do not anticipate other listed species to occur on the project site. In addition, your planning efforts should consider the needs of the Little San Bernardino Mountains Linanthus (*Linanthus maculatus*). It is a species of concern and may occur in the project area.

If you have any questions or concerns about this species list or the consultation process in general, please feel free to call Carol Roberts of my staff at (760) 431-9440 ext. 271.



## 8 Figures

### 8.1 Map 1

